

# Turkish Capital Markets

September 2022



- 3**     *Structure of the Turkish Financial Markets*
- 15**    *Turkish Capital Markets Association*
- 23**    *Turkish Capital Markets*
- 48**    *Investment Institutions*
- 71**    *Investor Profile*

# STRUCTURE OF THE TURKISH CAPITAL MARKETS



## CAPITAL MARKETS BACKGROUND

**1982:**Capital Markets Board established.

**1985:**Istanbul Stock Exchange (ISE) established.

**1992:**Takasbank (Settlement & Custody Bank) established.

**1995:**Istanbul Gold Exchange (IGE) established.

**1997:**Banks are forbidden to trade equities.

**2001:**Association of Capital Markets Intermediary Institutions of Turkey established.

Central Registry Agency established. Investors' Protection Fund established.

**2002:**Private pension system introduced.

**2005:**IFRS adopted for financial intermediaries and listed companies.

Turkish Derivatives Exchange (TurkDex) established.

Dematerialization of equities completed.

**2006:**Dematerialization of corporate bonds & mutual funds completed.

**2009:**Automated Disclosure Platform introduced.

Istanbul International Financial Centre strategy announced.

## CAPITAL MARKETS BACKGROUND

**2011:** Forex regulation passed.

**2012:** New Capital Markets Law passed.

ISE demutualised and merged with Istanbul Gold Exchange under Borsa Istanbul.

**2013:** Borsa Istanbul announced strategic partnership with Nasdaq. Borsa Istanbul and TurkDex merged.

**2014:** The structure of the Association has changed and the membership base was expanded to cover asset management companies and investments trusts, in addition to brokerage firms and banks. The name of the Association was revised to Turkish Capital Markets Association.

**2015:** Takasbank introduced the Electronic Fund Distribution Platform - TEFAS. Borsa Istanbul introduced new trading platform - BISTECH.

**2016:** TCMA arbitration committees established.  
Turkey Wealth Fund established

**2017:** Auto-enrollment in the private pension system introduced.

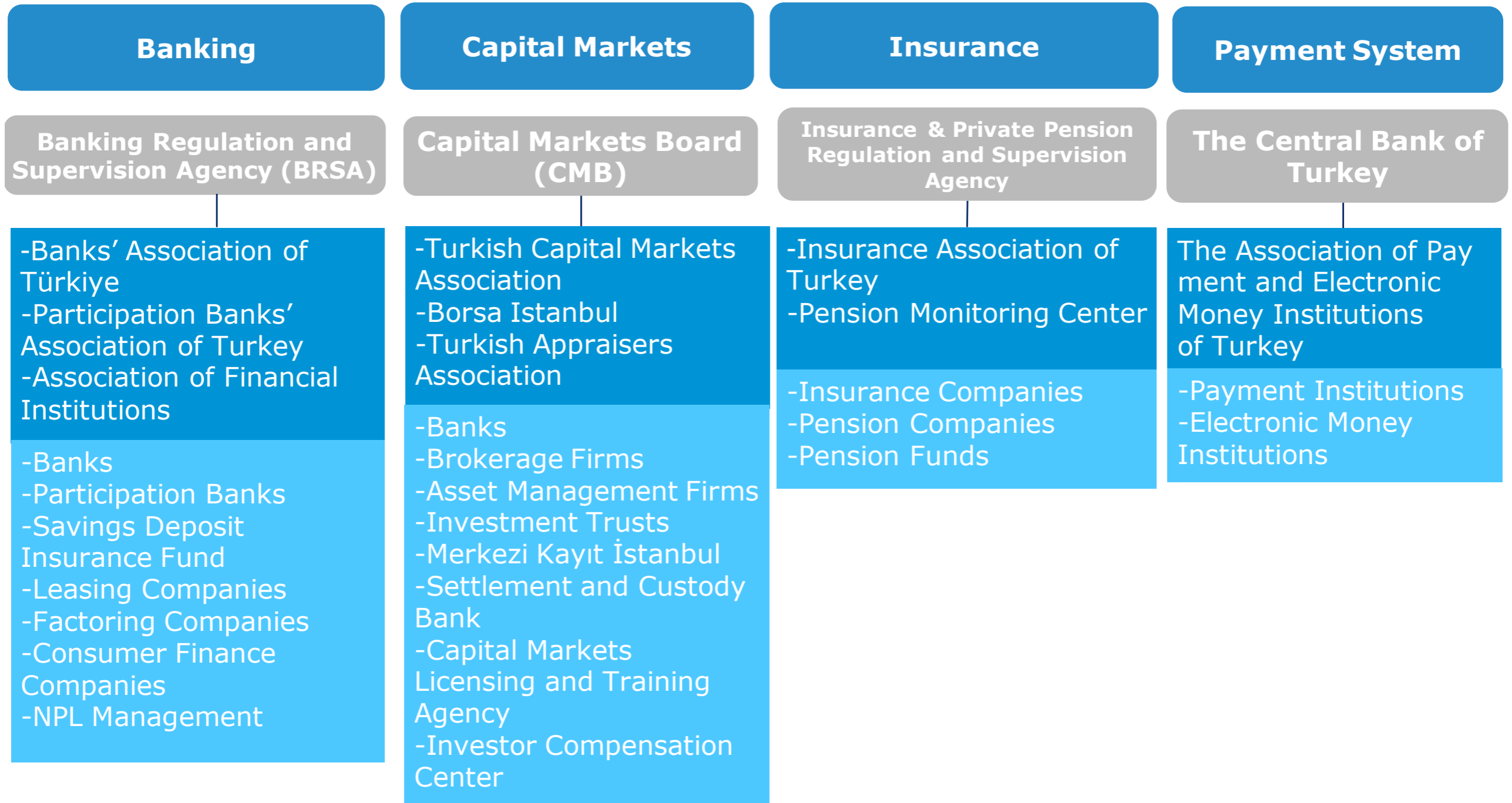
**2018:** Presidential Finance Office established.

**2019:** TURIB- e-Warehouse Market started to operate.

Equity based crowdfunding regulations introduced.

**2021:** Takasbank launched the private pension fund trading platform BEFAS.  
New crowdfunding regulations introduced.

# REGULATORY STRUCTURE OF THE FINANCIAL MARKETS



- Capital Markets Board (CMB) is the main regulatory and supervisory authority for the securities markets and institutions in Turkey.
- The Board is responsible for the protection of rights and interests of investors.
- The CMB's jurisdiction areas:
  - Primary markets,
  - Secondary markets,
  - Investment services.

- Borsa Istanbul, formerly named as Istanbul Stock Exchange, was established in 1985.
- The exchange was demutualised in 2013.
- The exchanges operating in Turkey, namely Istanbul Stock Exchange, Istanbul Gold Exchange and the Turkish Derivatives Exchange merged under the roof of Borsa Istanbul.
- The main markets and the traded securities on Borsa Istanbul are:
  - Equity Market: Shares, rights coupons, ETFs, warrants, certificates, real estate and venture capital investment funds.
  - Debt Securities Market: Government bonds, corporate bonds, asset backed securities, Islamic bonds, repo-reverse repo transactions, Turkish eurobonds, money market and swap transactions.
  - Derivatives Market: Single stock, equity index, foreign currency, physically delivered FX, precious metals, energy, foreign index and interest rate futures. Single stock, currency, equity index, USDTRY and physically delivered USDTRY options.
  - Precious Metals and Diamond Market: Gold, silver, platinum and palladium.



## TAKASBANK (ISTANBUL SETTLEMENT AND CUSTODY BANK)

- Takasbank was established in 1988 as a department of Borsa Istanbul. It was incorporated as a separate company in 1992 and became a non-deposit taking bank in 1995.
- Takasbank is:
  - The clearing and settlement center for Borsa Istanbul,
  - The central counterparty for Borsa Istanbul Futures & Options, Debt Securities, Equities, Money and Swap markets
  - The national numbering agency of Turkey.
- Services offered:
  - Securities Lending & Borrowing Market and Takasbank Money Market. Takasbank acts as CCP in those markets
  - Clearing and central counter party services for Turkish Lira IRS (Interest Rate Swap) and OIS (Overnight Index Swap) contracts in OTC markets
  - Custodian to private pension system.
  - Electronic fund (TEFAS) and private pension fund distribution platforms (BEFAS)
  - Record keeping for leveraged transactions and collateral management as an authorized trade repository institution.

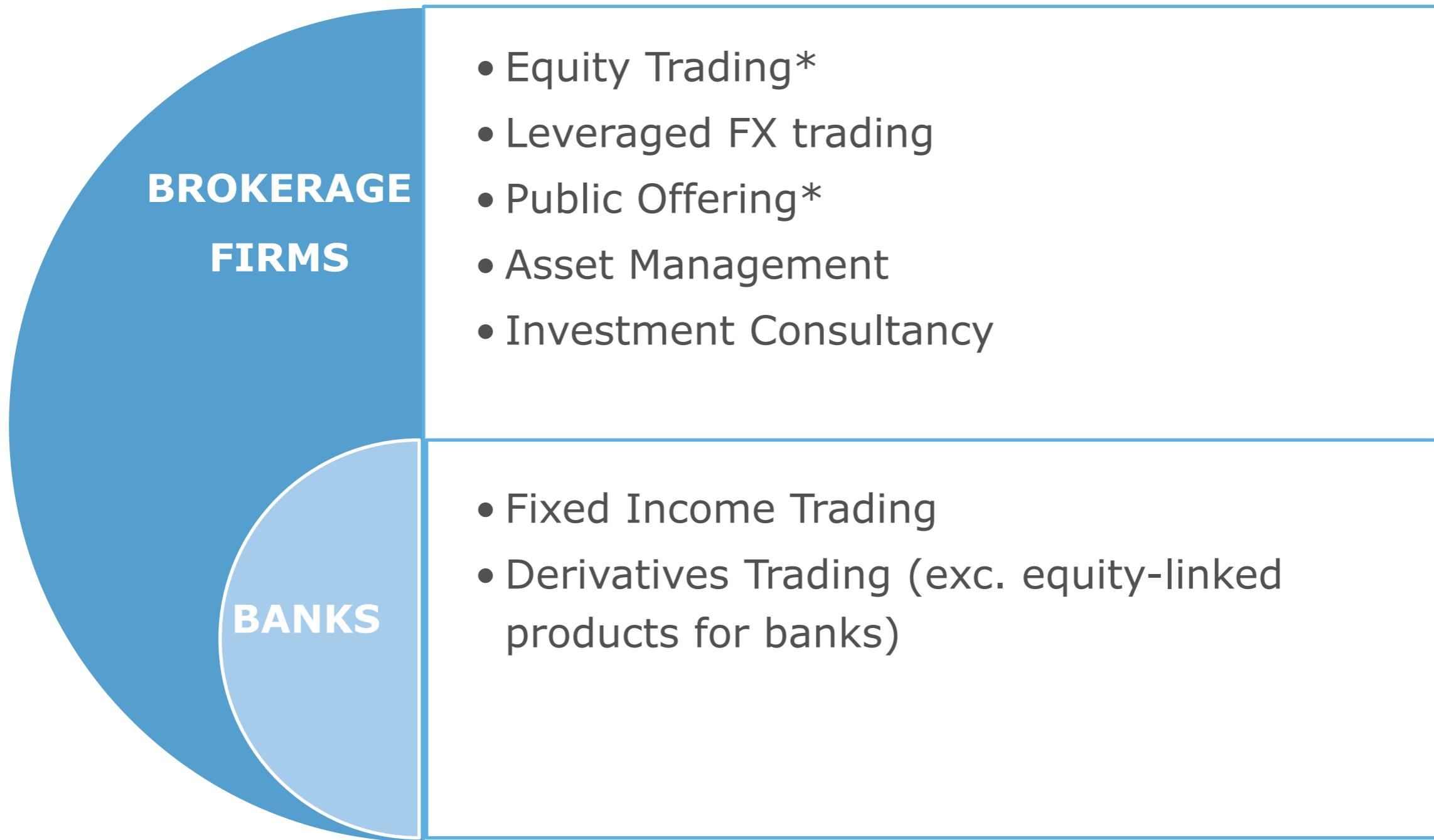
- Merkezi Kayit Istanbul – CSD of Turkey was established in 2001 as a private company.
- The sole only central depository for all dematerialized capital market instruments.

The dematerialization process is completed for equities, mutual funds, corporate bonds, warrants, certificates, asset backed securities, government debt holdings (excluding investment institutions), real estate certificates and electronic warehouse receipts.

- Operates the Public Disclosure Platform.
- Runs various electronic services for investors and public companies such as; Investor Notification and Alert System (eCAS), Companies Information Portal (e-Company), Electronic General Assembly (e-GEM), corporate management and investor relations portal (e-Governance) or Electronic Warehouse Receipt Center (e-Warehouse), TURIB e-Warehouse Market, Crowdfunding System.

- Investors' Protection Fund, which covered equity settlement obligations, was established in 2001.
- Investor Compensation Centre replaced the Investors' Protection Fund in 2013 with the renewed Capital Market Law.
- It covers settlement obligations of all capital market instruments, up to TL 323,670 in 2022, in case of liquidation or bankruptcy of investment institutions.
- All investment institutions must be a member of the Investor Compensation Centre.

# ACTIVITIES OF INTERMEDIARIES



\*Authorized activities for Investment Banks

# TYPES OF BROKERAGE FIRMS



## Market Makers

- execution of orders from their own account by positioning their customers as counterparty
- minimum capital: TL 31.3 mn.

## Execution Brokers

- execution of orders of in the name of customers and/or their own account
- offering custody services
- minimum capital: TL 12.5 mn.

## Introducing Brokers

- reception of orders and transfer them to other brokers
- minimum capital: TL 2.5 mn.



## **Portfolio Management Companies**

- May establish stock, bond, balanced mutual funds
- Mn. capital required varies btw. TL 7.5 million and TL 25 million depending on AUM.

## **Real Estate/ Venture Capital Portfolio Management Companies**

- May establish only real estate or venture capital investment funds
- Mn. capital required varies btw. TL 3.75 million and TL 12.5 million depending on AUM.

# TURKISH CAPITAL MARKETS ASSOCIATION

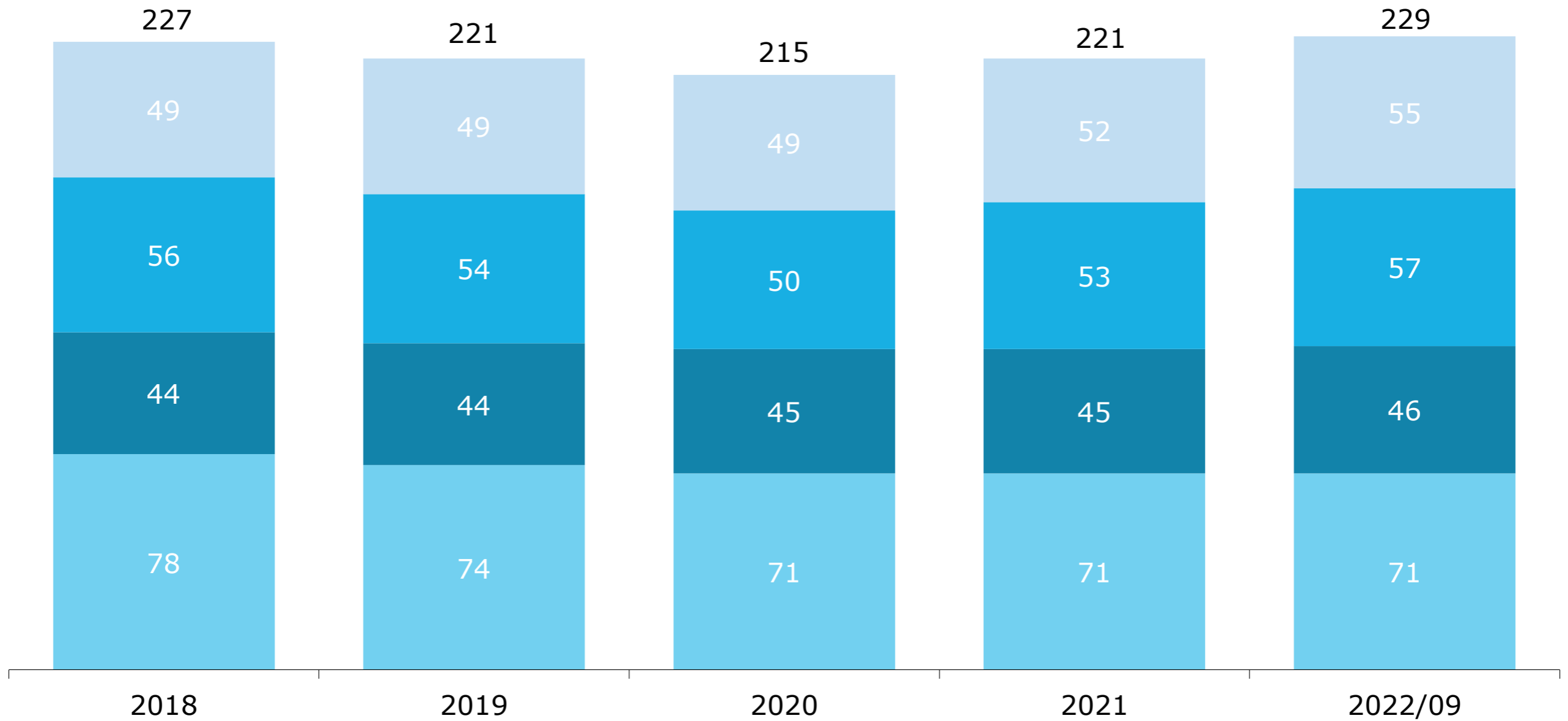


- TCMA is the self-regulatory professional organization in the Turkish capital markets.
- Brokerage firms, banks, asset management companies, and investment trusts are members of the Association.
- Founded in April 2001 according to the Capital Markets Law.
- Membership base expanded in 2014 with new law.
- Membership is mandatory.
- Under CMB supervision



# MEMBERS

■ Investment Trusts   ■ Asset Management Firms   ■ Banks   ■ Brokerage Firms



- Contribute to the development of the capital market
- Meet the collective needs of members and facilitate solidarity among its members,
- Prevent unfair competition between its members,
- Enhance know-how in the sector.

## FUNCTIONS

- Establish code of ethics for the profession,
- Establish professional rules and regulations,
- Conduct research,
- Offer educational programs,
- Assist in the resolution of disputes,
- Cooperate with related foreign institutions,
- Engage in financial literacy activities.

## NATIONAL MEMBERSHIPS

- Foreign Economic Relations Board of Turkey (DEİK), founder member since 2008.
- Tax Council, member since 2013.
- Istanbul Arbitration Center (ISTAC), member since 2017.
- Halal Accreditation Agency Advisory Board, member since 2020.
- TUBITAK Venture Capital Funding Program Executive Board, member since 2020.
- Impact Investing Advisory Board (EYDK), member since 2021.

## INTERNATIONAL MEMBERSHIPS

- Asia Securities Forum (ASF) member since 2009.
- OECD International Network on Financial Education (INFE) affiliate member since 2015.
- International Council of Securities Associations (ICSA) member since 2006.
- International Organization of Securities Commissions (IOSCO) affiliate member since 2003.

## **PARTICIPATIONS**

### **CENTRAL REGISTRY AGENCY**

- 5% stake
- one seat at the board of directors, out of 8 members

### **BORSA ISTANBUL**

- 1.3% stake

### **CAPITAL MARKETS LICENSING & TRAINING AGENCY**

- 49% stake
- 2 seats at the board of directors, out of 7 members

### **JCR EURASIA CREDIT RATING AGENCY**

- 6% stake

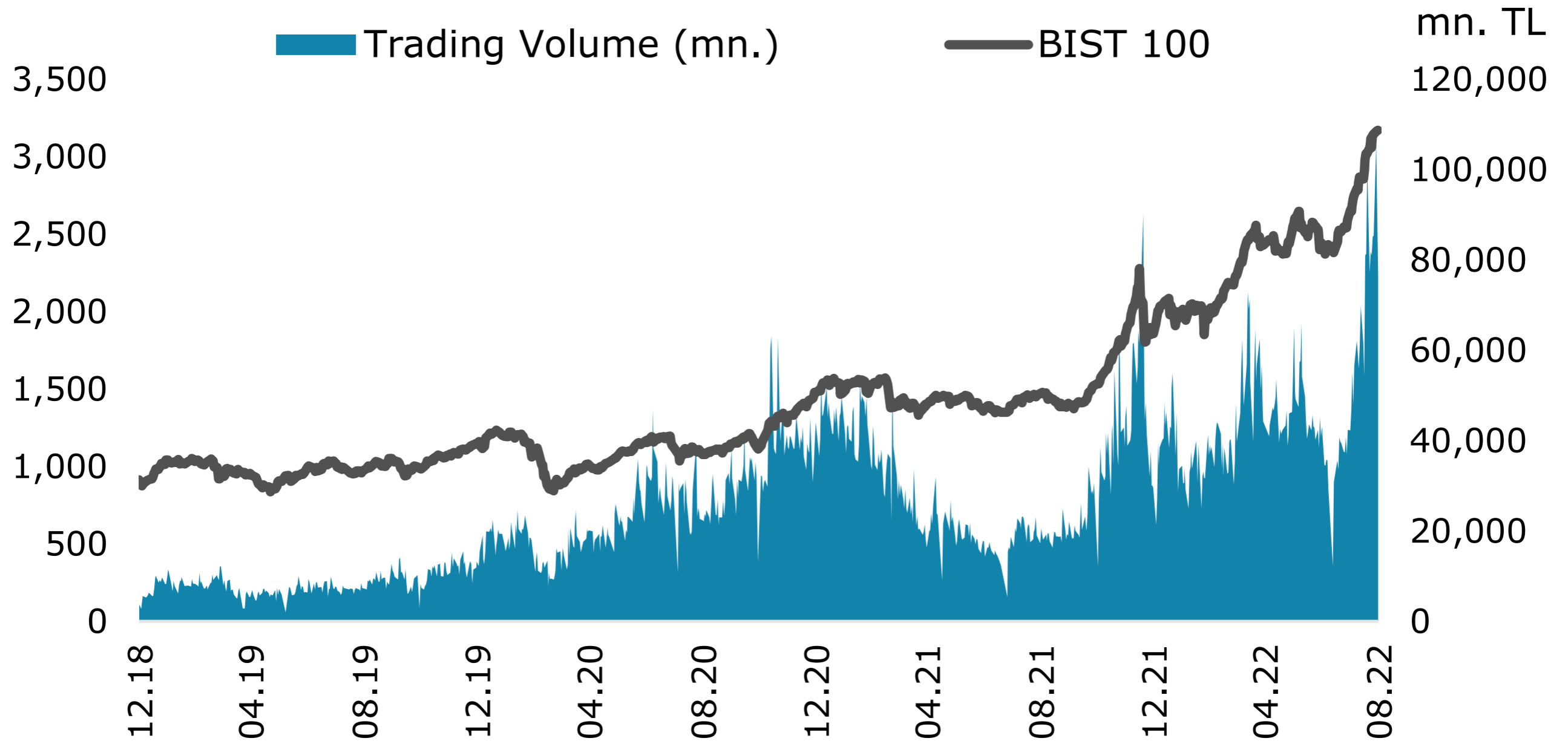
### **TURKEY SECURITIZATION COMPANY**

- 5% stake
- one seat at the board of directors, out of 7 members

# TURKISH CAPITAL MARKETS



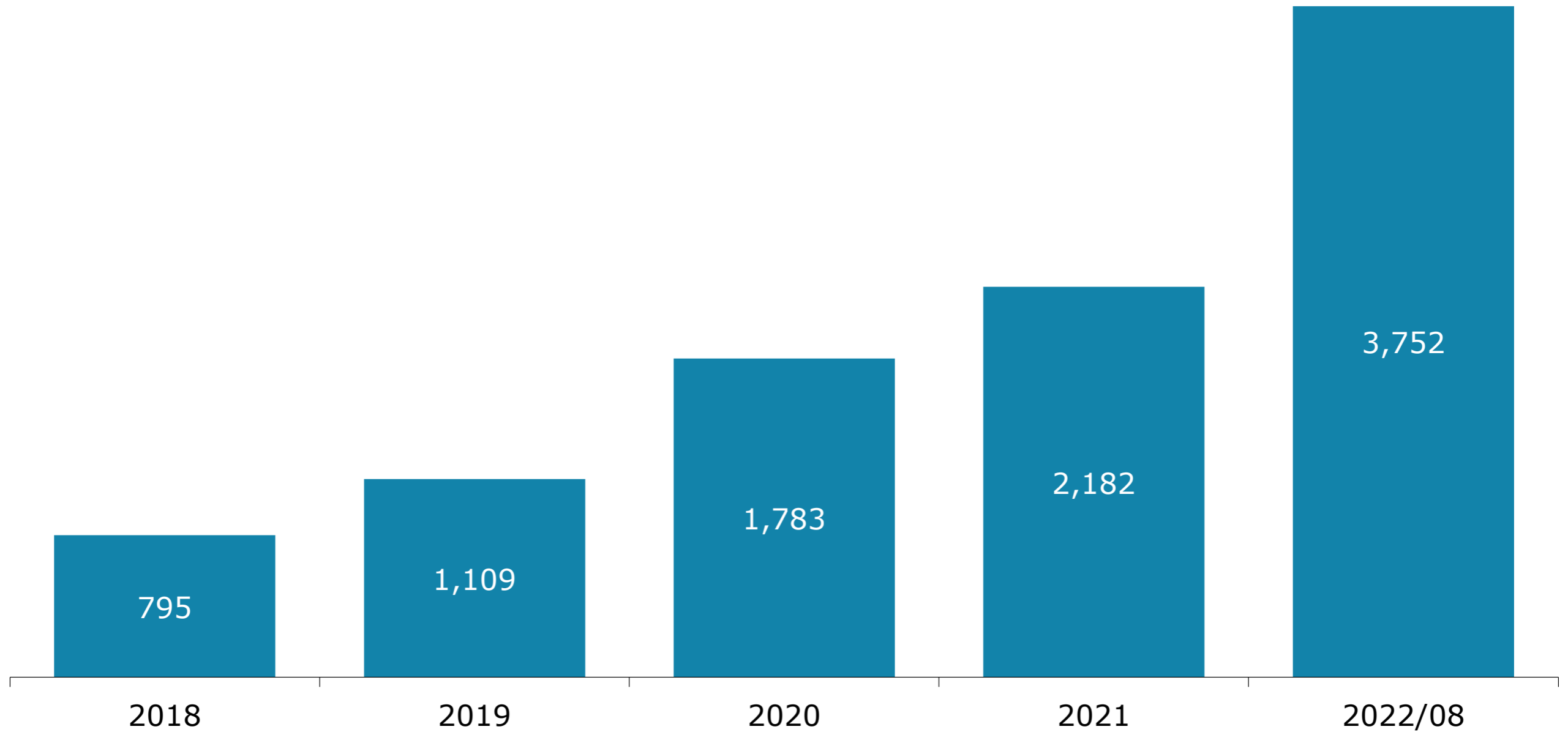
# BIST-100 INDEX & TRADING VOLUME



Source: Borsa Istanbul

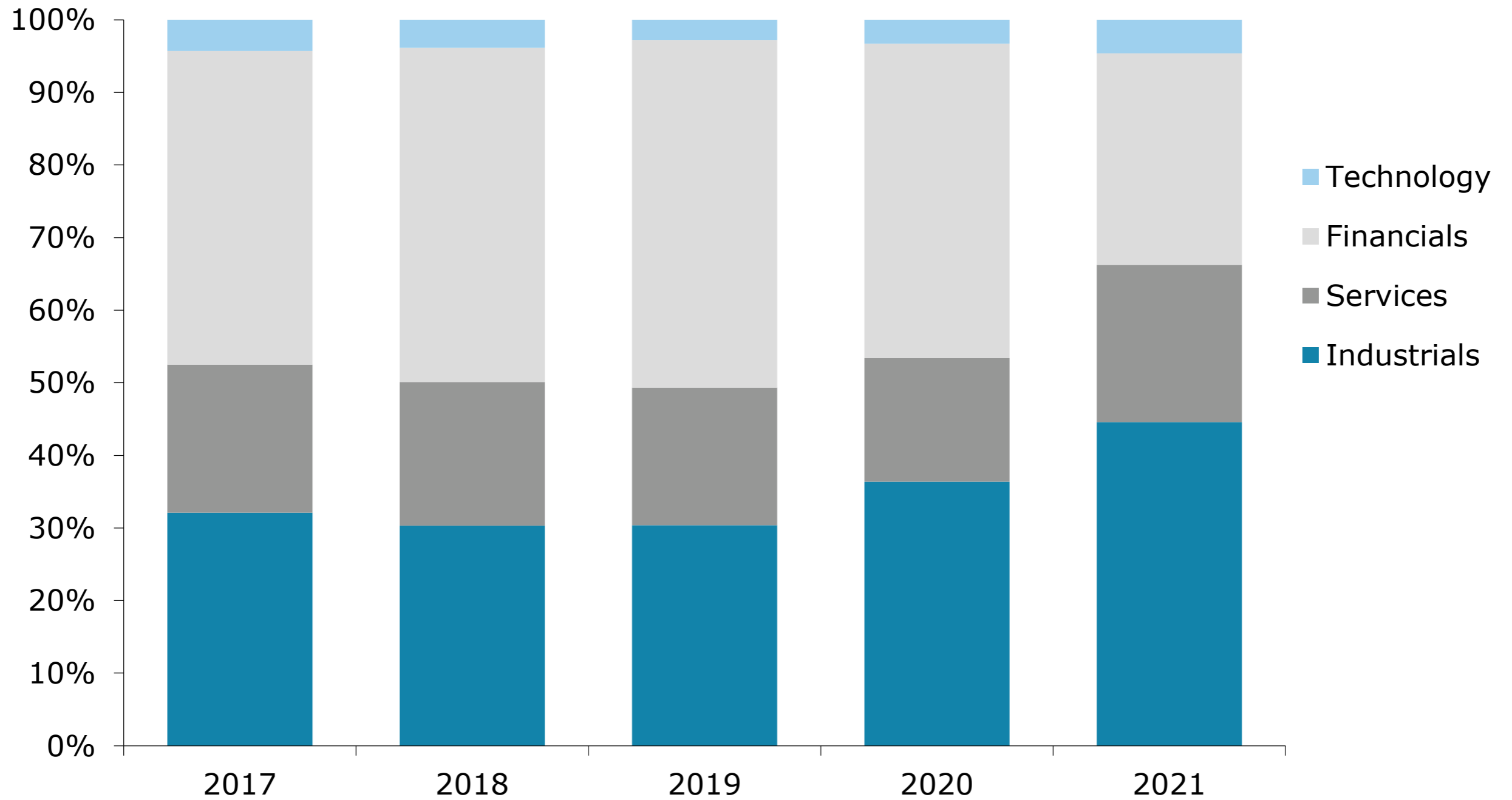


# MARKET CAPITALIZATION OF BORSA ISTANBUL (BILLION TL)



Source: Borsa Istanbul

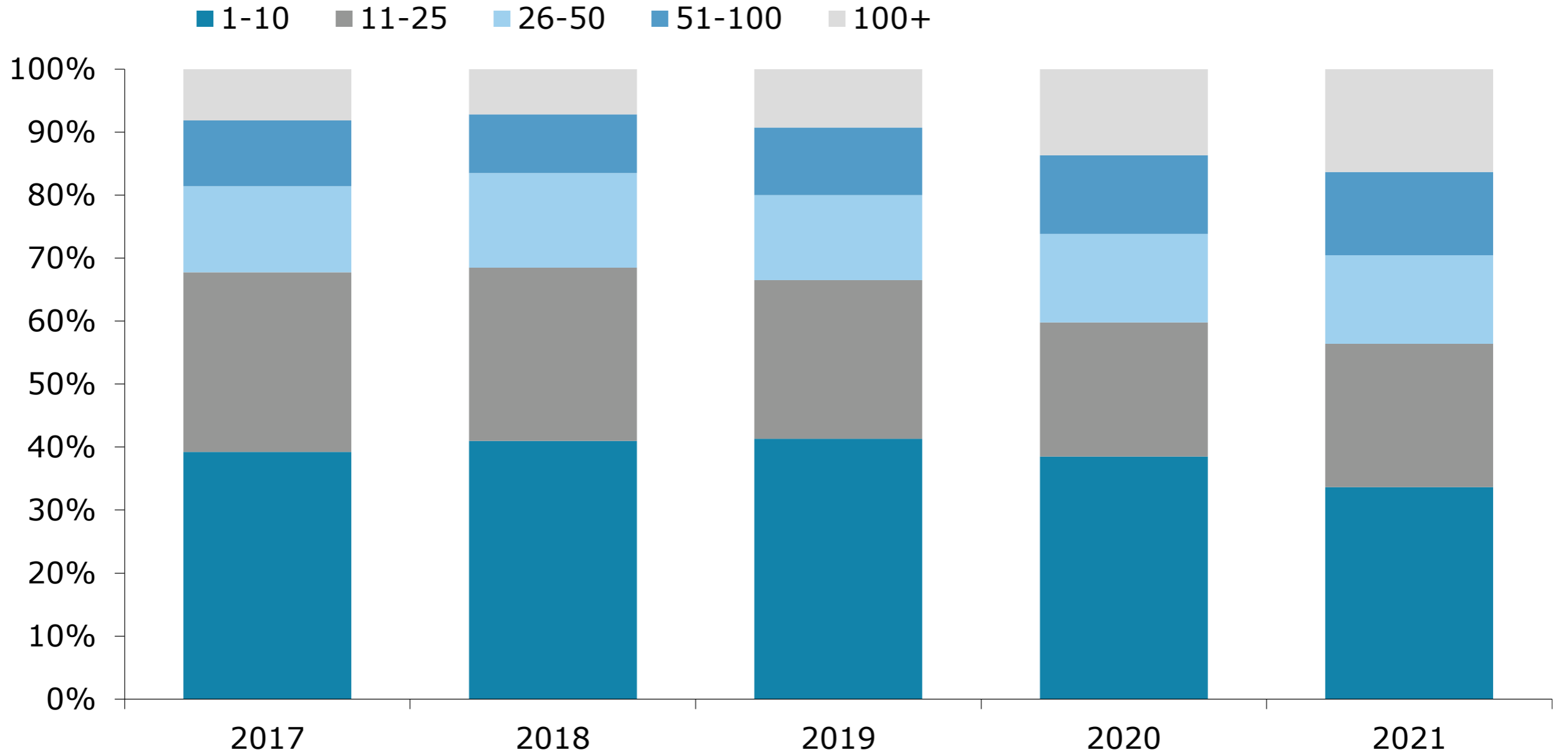
# BREAKDOWN OF BORSA ISTANBUL MARKET CAPITALIZATION



Source: Borsa Istanbul

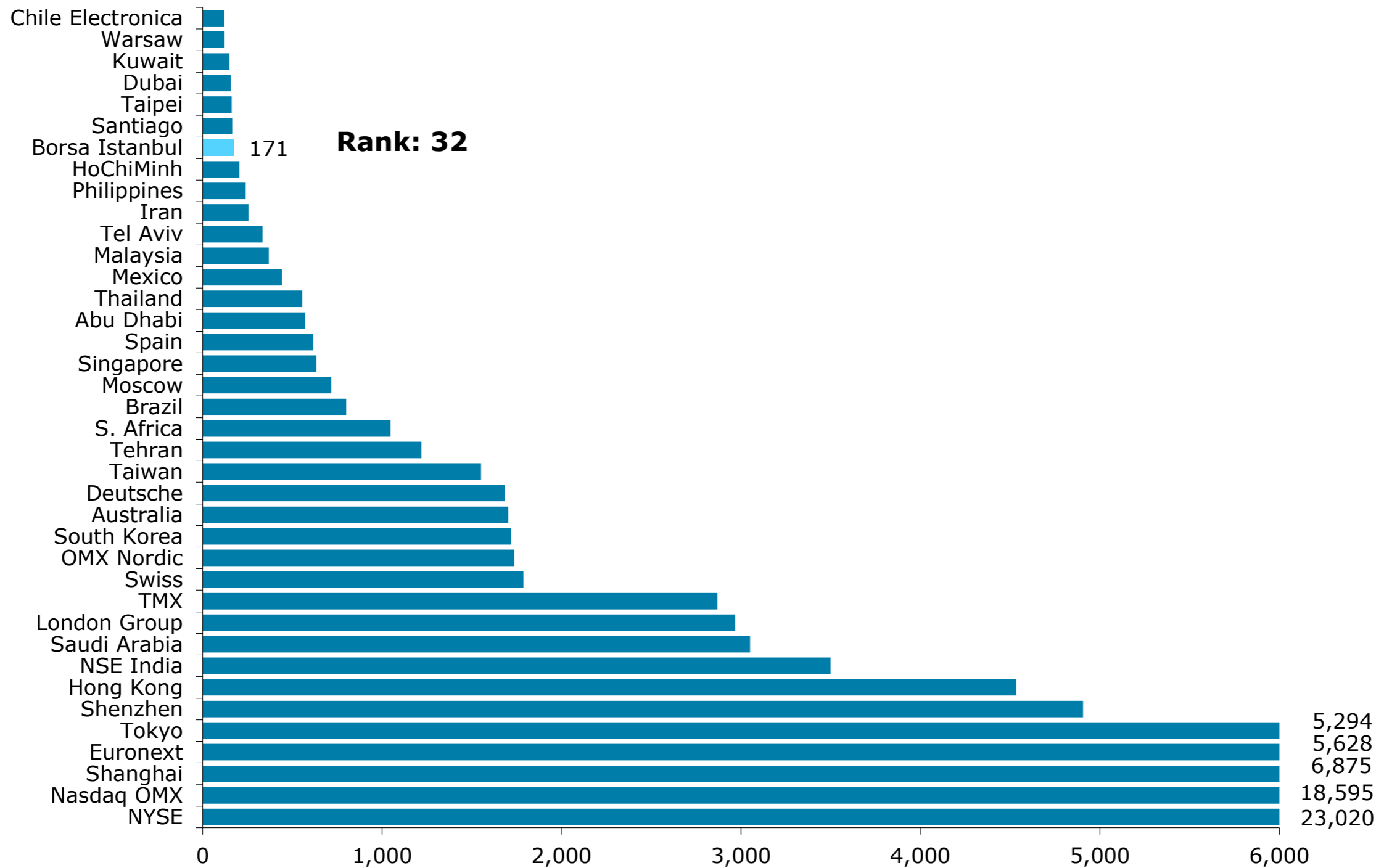
# CONCENTRATION IN THE EQUITY MARKET (MCAP)

No. of Equities



Source: Borsa Istanbul

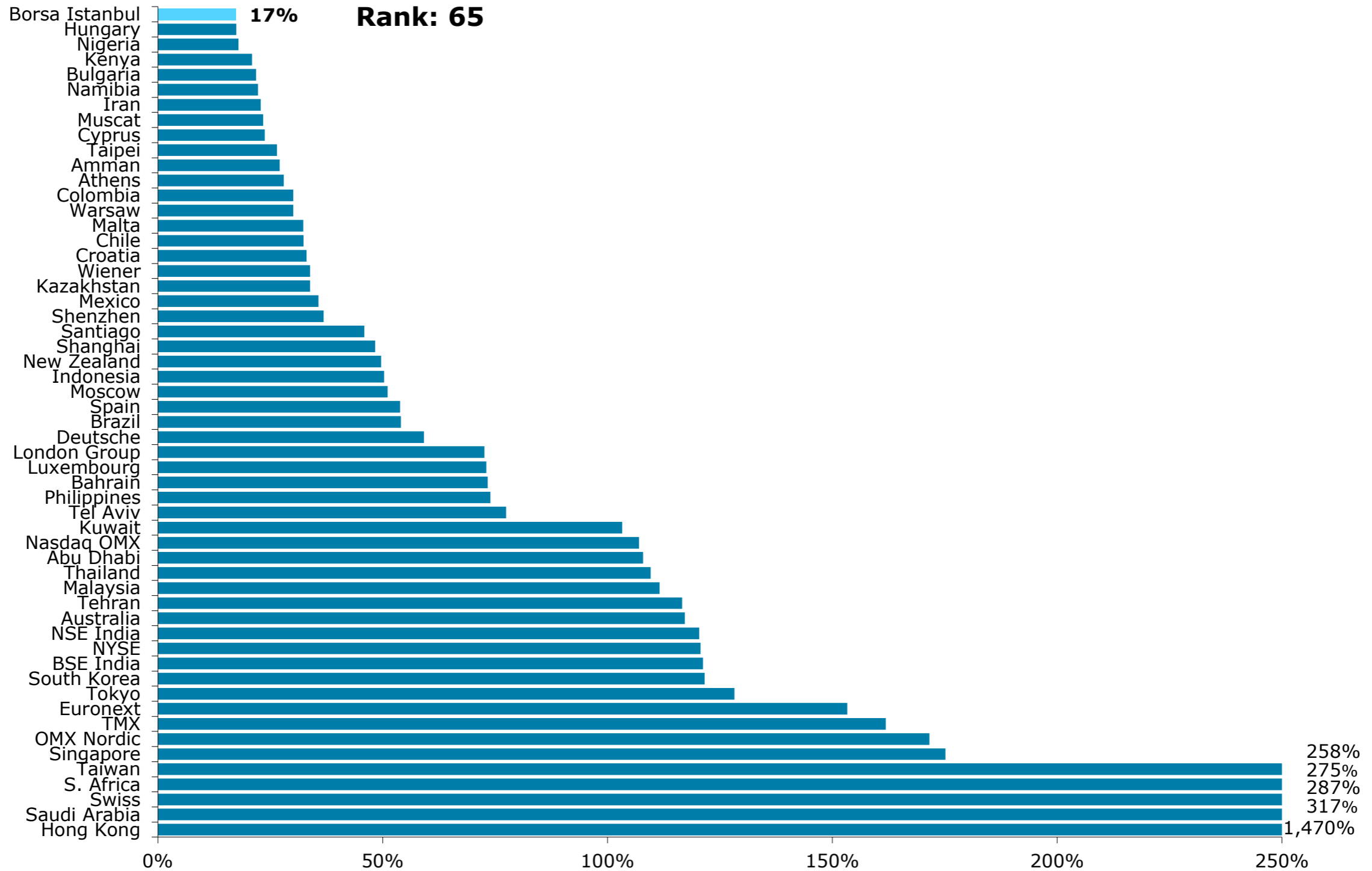
# DOMESTIC MARKET CAPITALIZATION\* (2022/08, BILLION \$)



Source: WFE

\*WFE definition does not include mutual funds, exchange traded funds, investment trusts, unlisted firms and holding companies.

# MARKET CAPITALIZATION/GDP\* (2021)

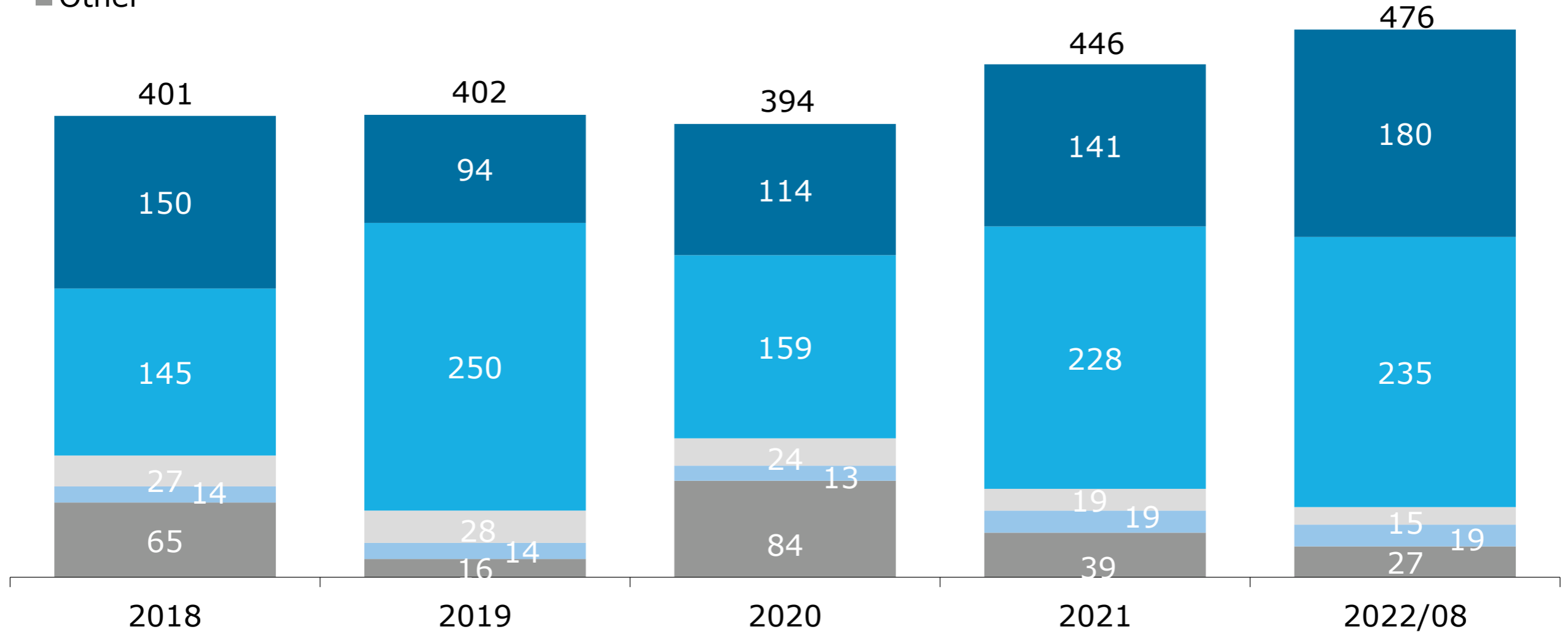


Source: WFE, IMF, Turkstat

\*Only main markets  
In USD terms

# NUMBER OF SECURITIES IN THE EQUITY MARKET

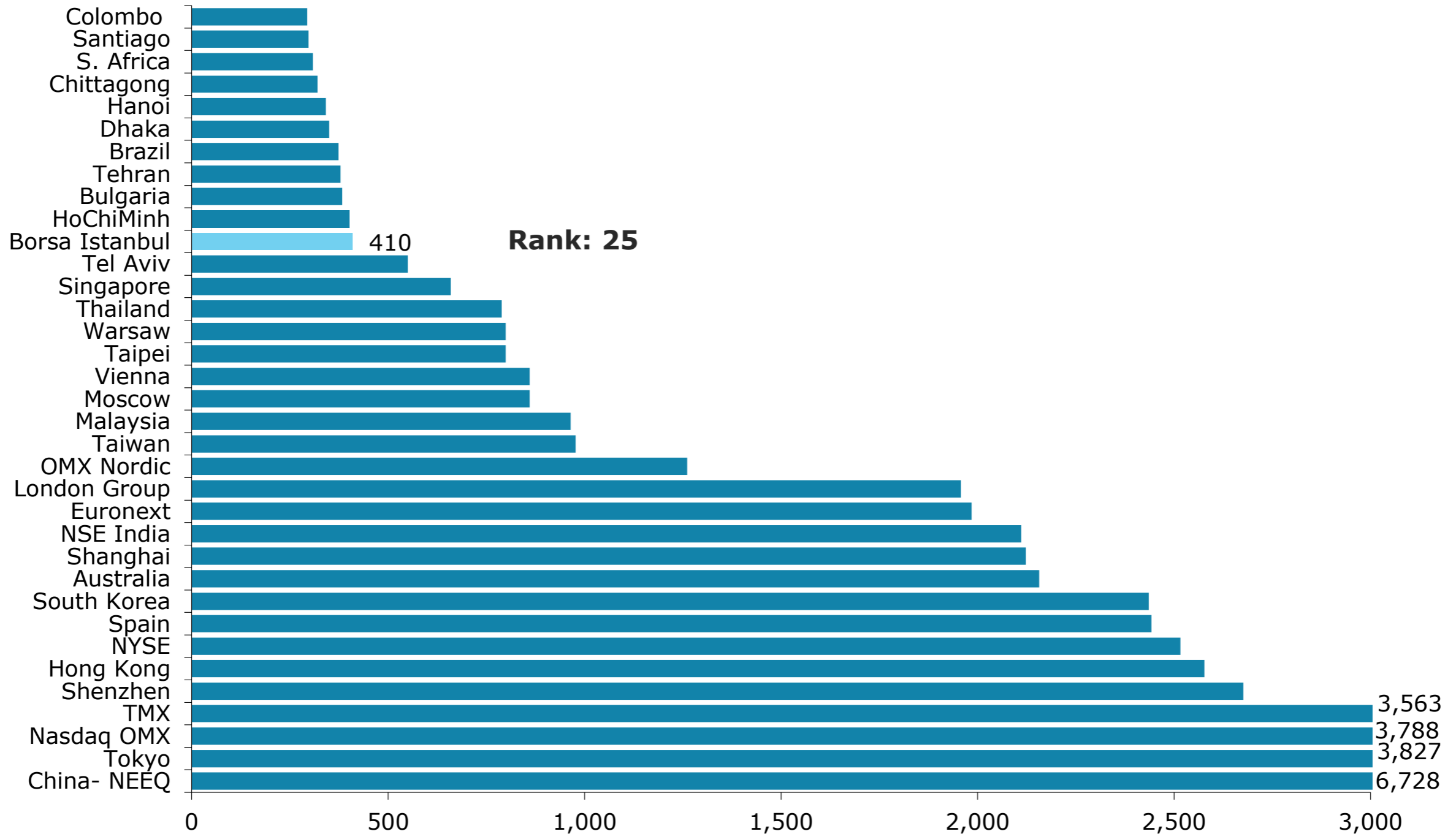
- Stars Market
- Main Market
- Watch List
- Pre-Market Trading Platform
- Other\*



Source: Borsa Istanbul

Investment trusts are listed in other markets as of 2019.

# NUMBER OF LISTED COMPANIES\* (2022/08)



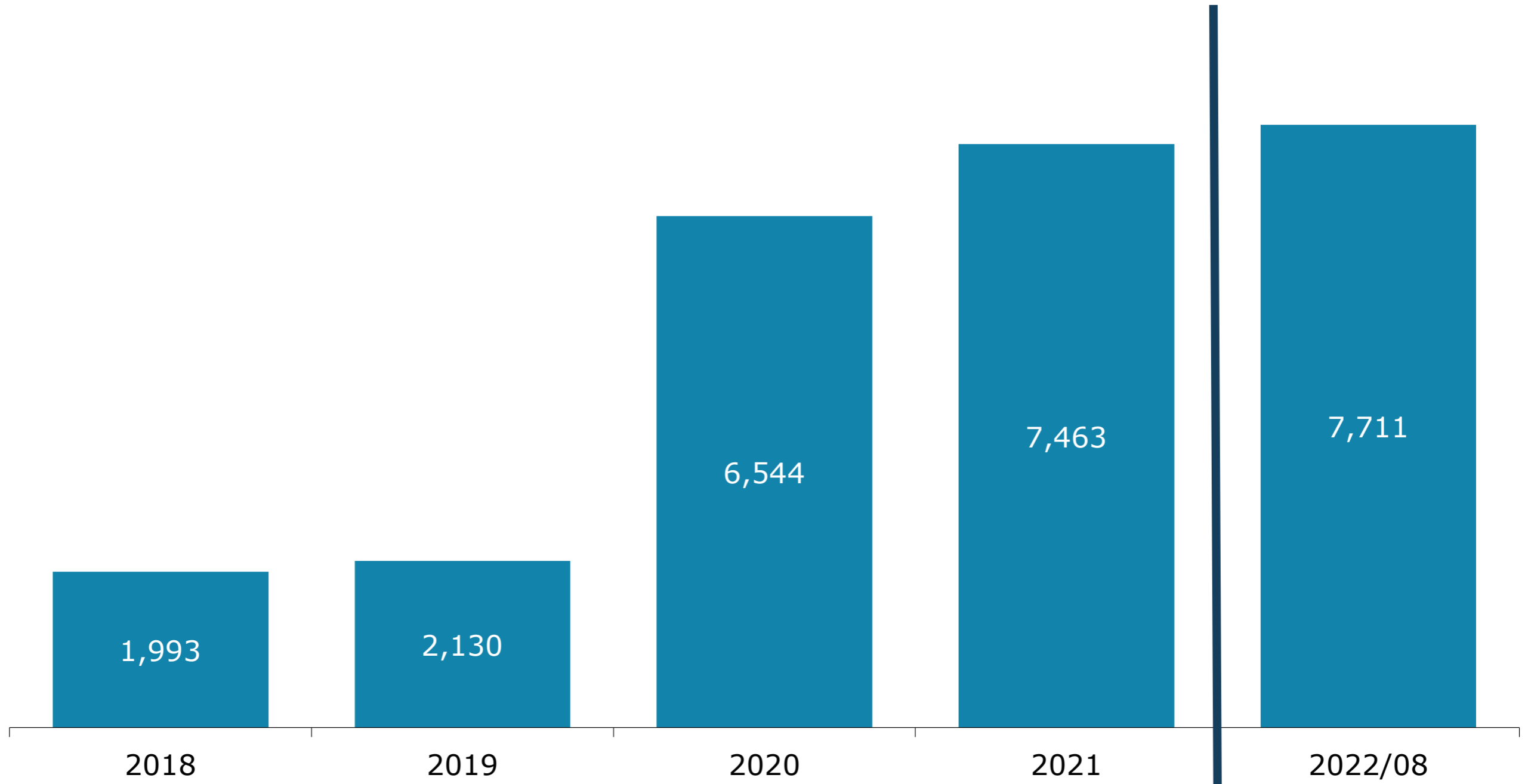
**Rank: 25**

410

Source: WFE

\*Borsa Istanbul data excludes mutual funds, investment trusts and Pre-Market Trading Platform

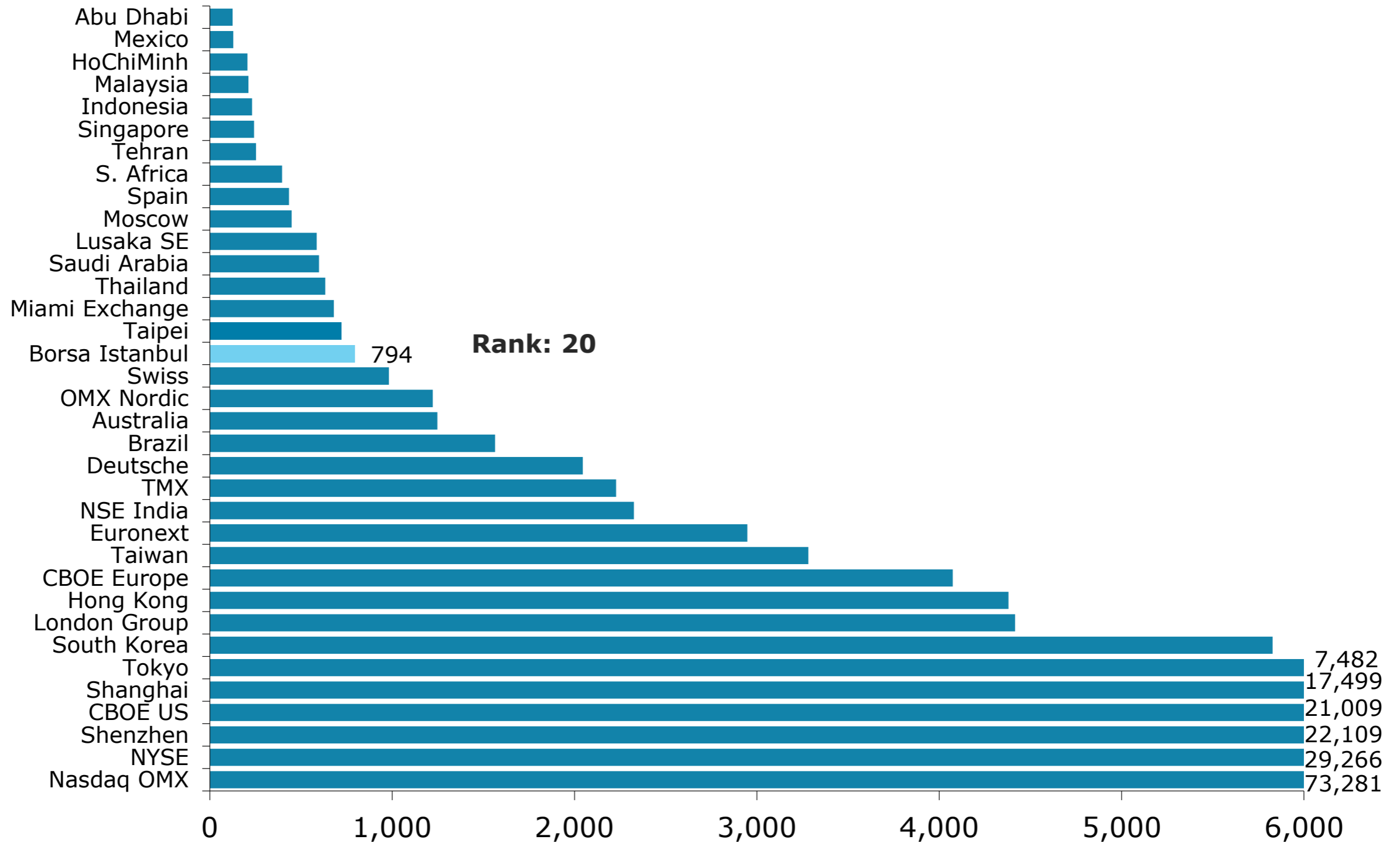
# EQUITY TRADING VOLUME OF BORSA ISTANBUL (BILLION TL)



Source: Borsa Istanbul

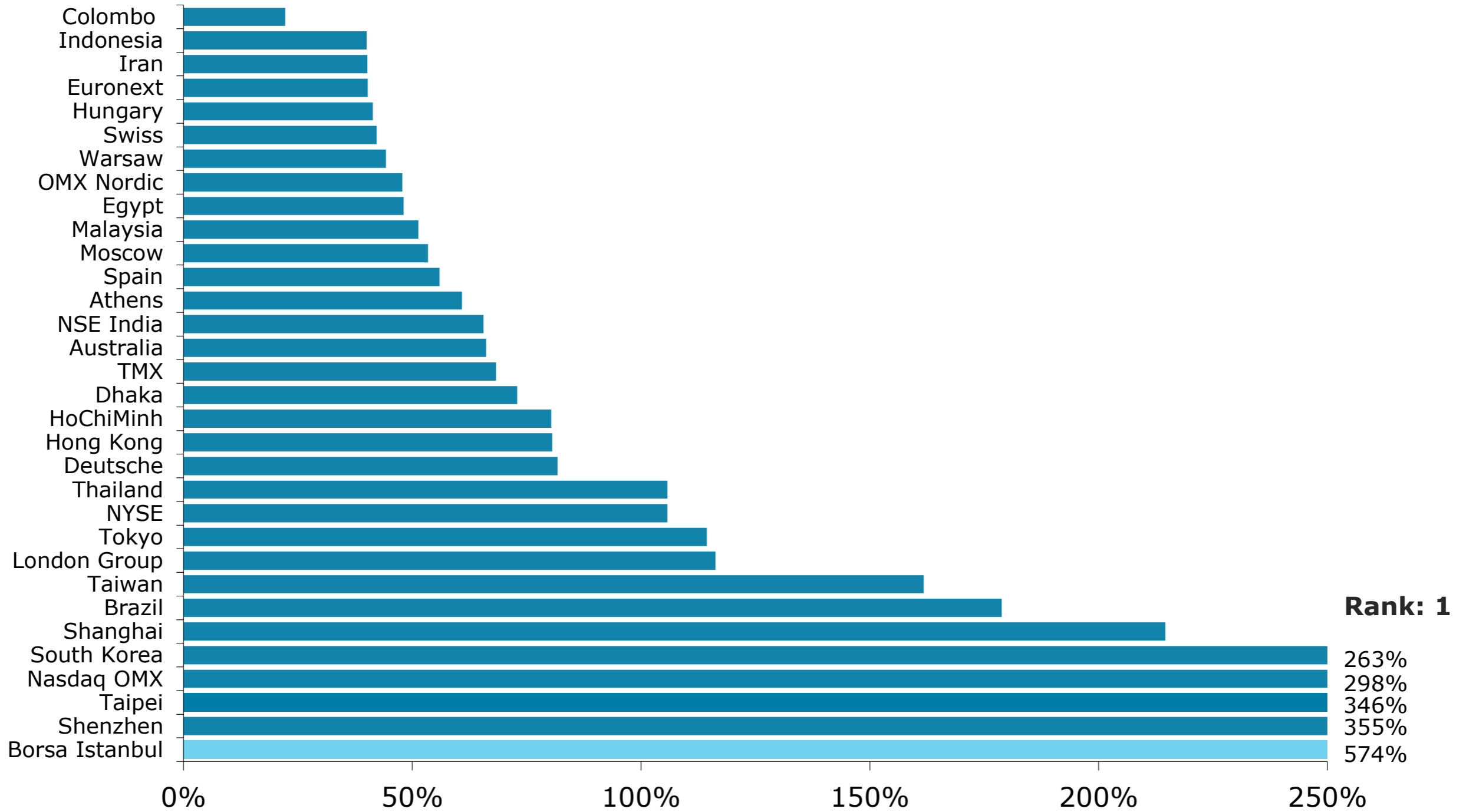


# EQUITY TRADING VOLUME (2021, BILLION \$)



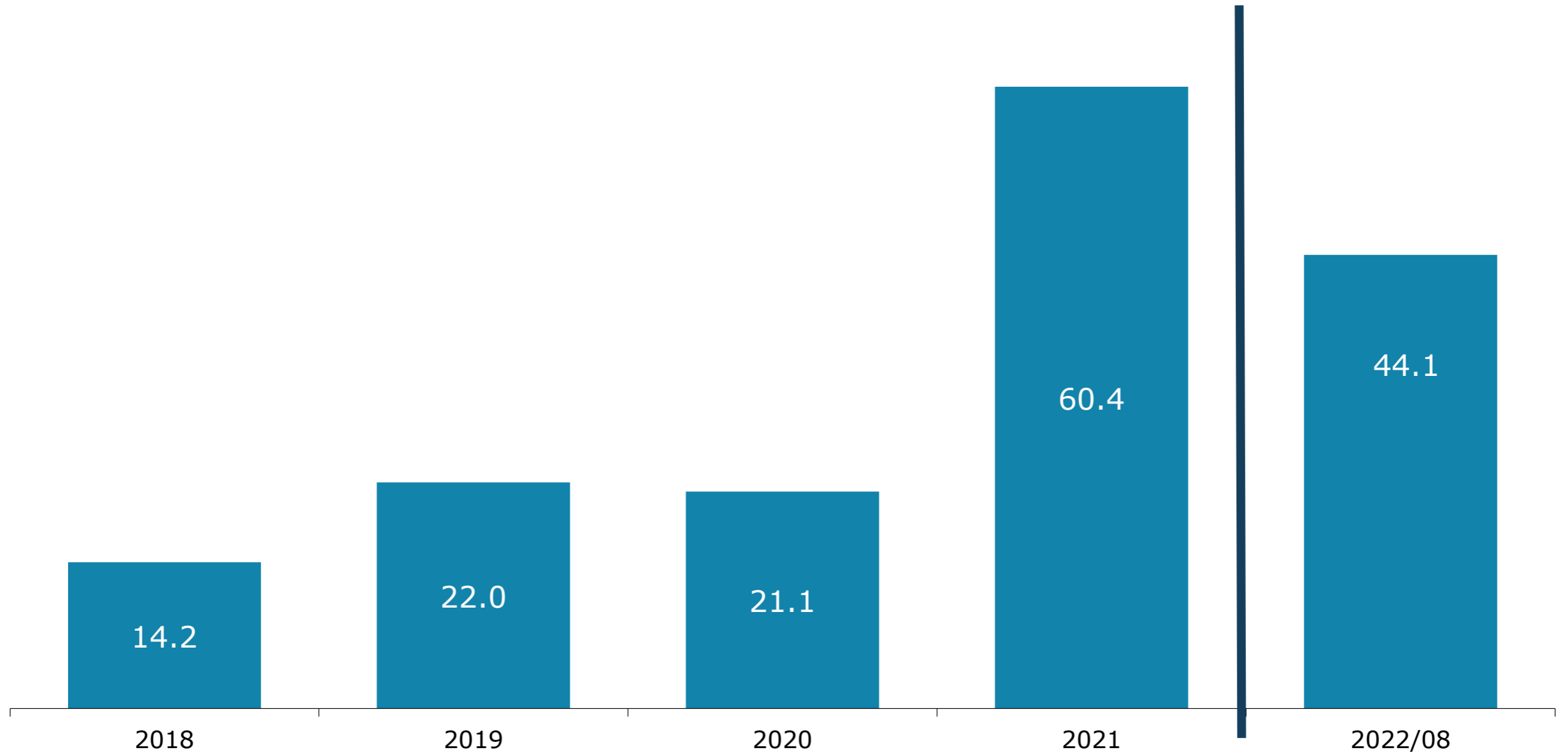
Source: WFE

# TURNOVER RATIO (EQUITY TRADING VOLUME/MARKET CAPITALIZATION - 2021)



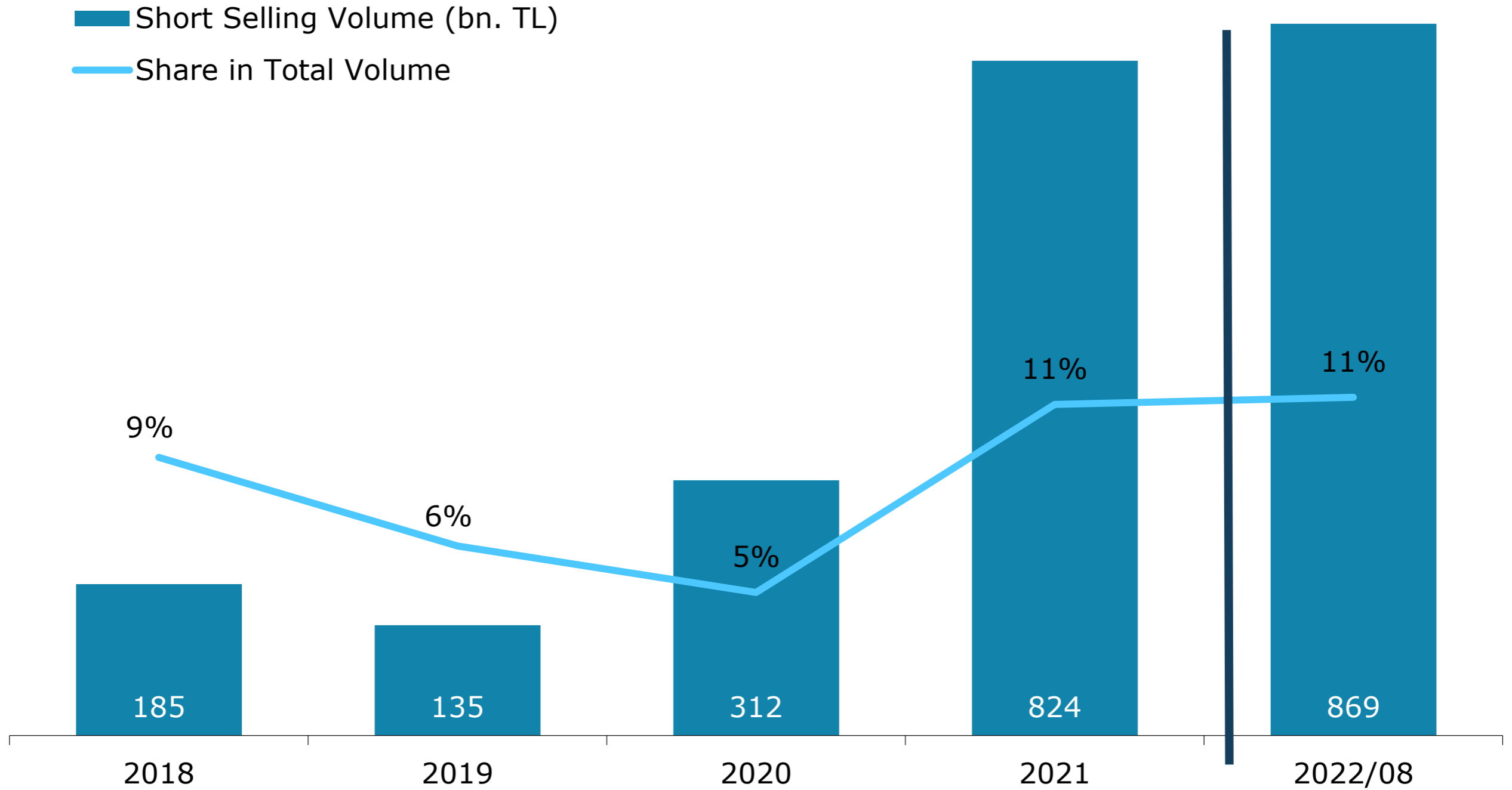
Source: WFE

# SECURITIES LENDING/BORROWING IN BORSA ISTANBUL (BILLION TL)



Source: Takasbank

# SHORT SELLING IN BORSA ISTANBUL

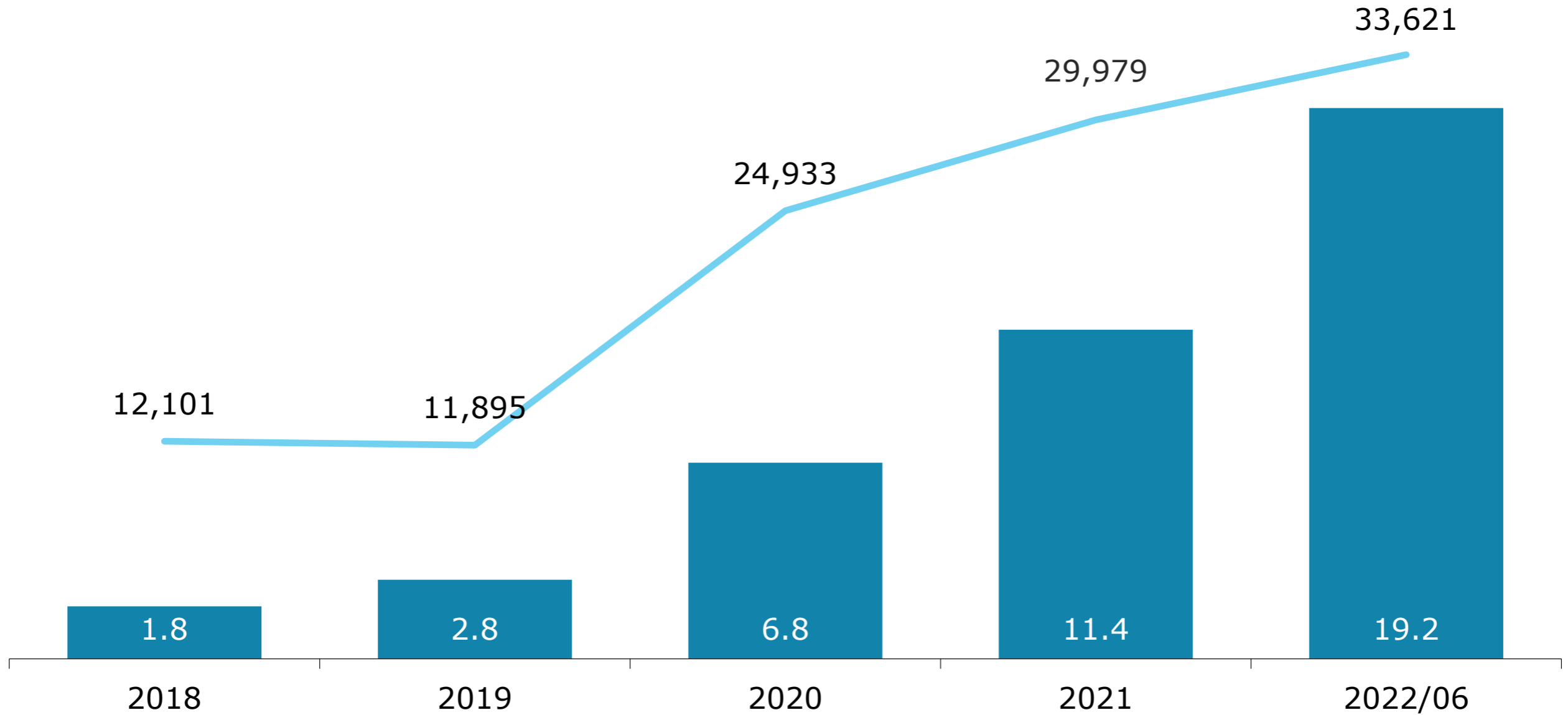


Source: Borsa Istanbul

# MARGIN TRADING

■ Outstanding Loan Size (bn. TL)

— No. of Contracts

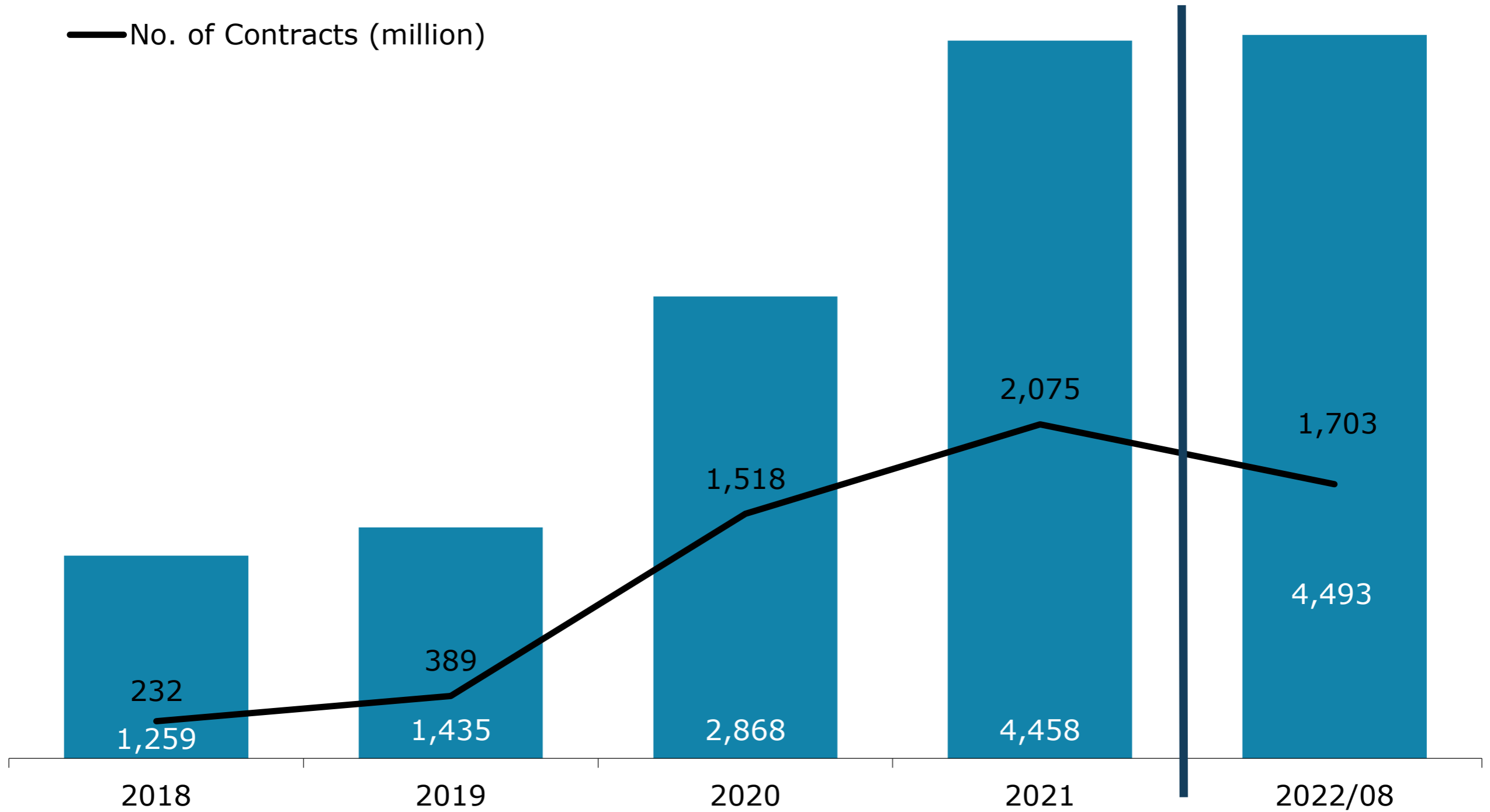


Source: TCMA

# FUTURES TRADING VOLUME OF BORSA ISTANBUL

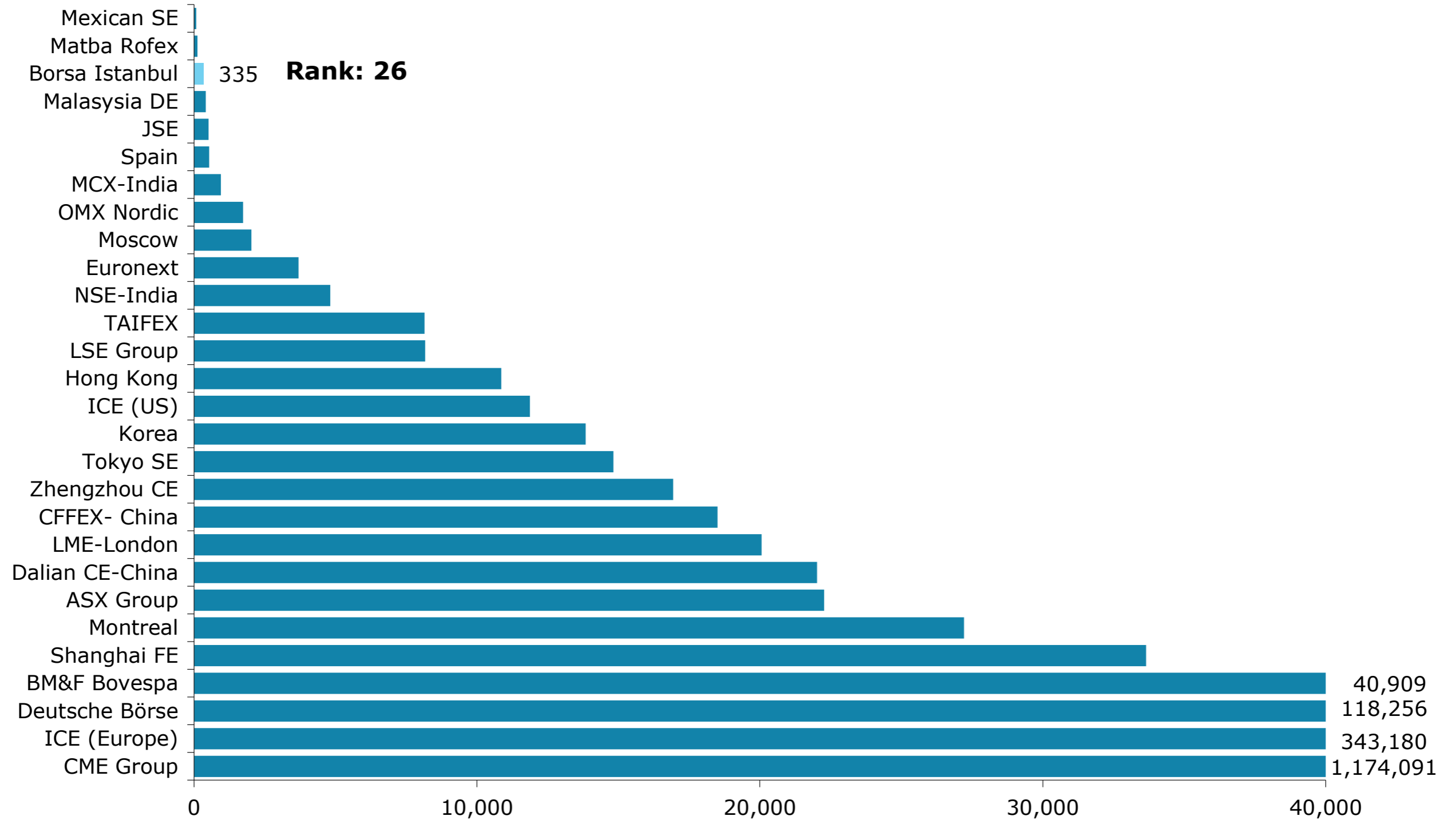
■ Futures Trading Volume (bn. TL)

— No. of Contracts (million)



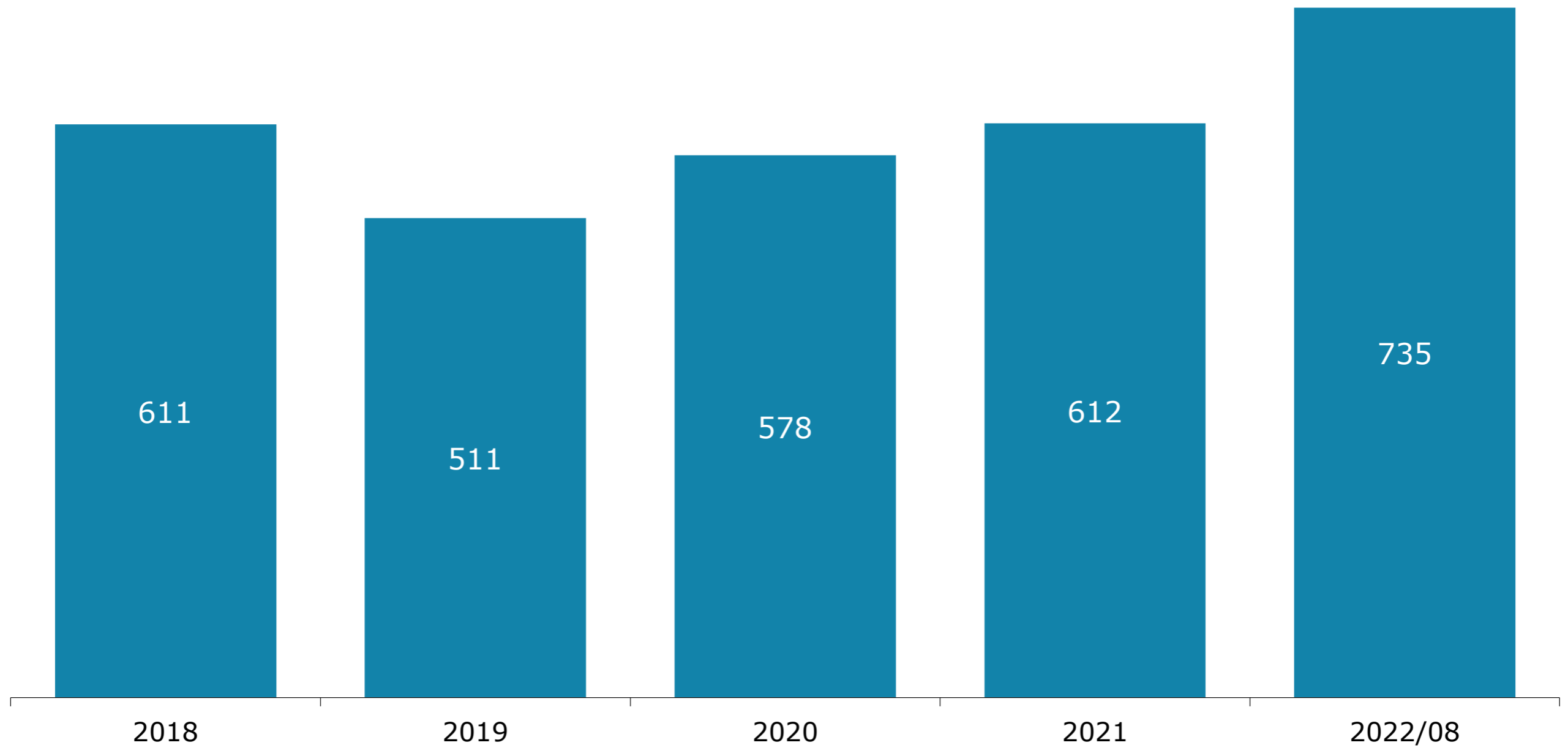
Source: Borsa Istanbul

# TRADING VOLUME IN FUTURES MARKETS (2021, BILLION \$)



Source: WFE

# NUMBER OF LISTED CORPORATE BONDS IN BORSA ISTANBUL

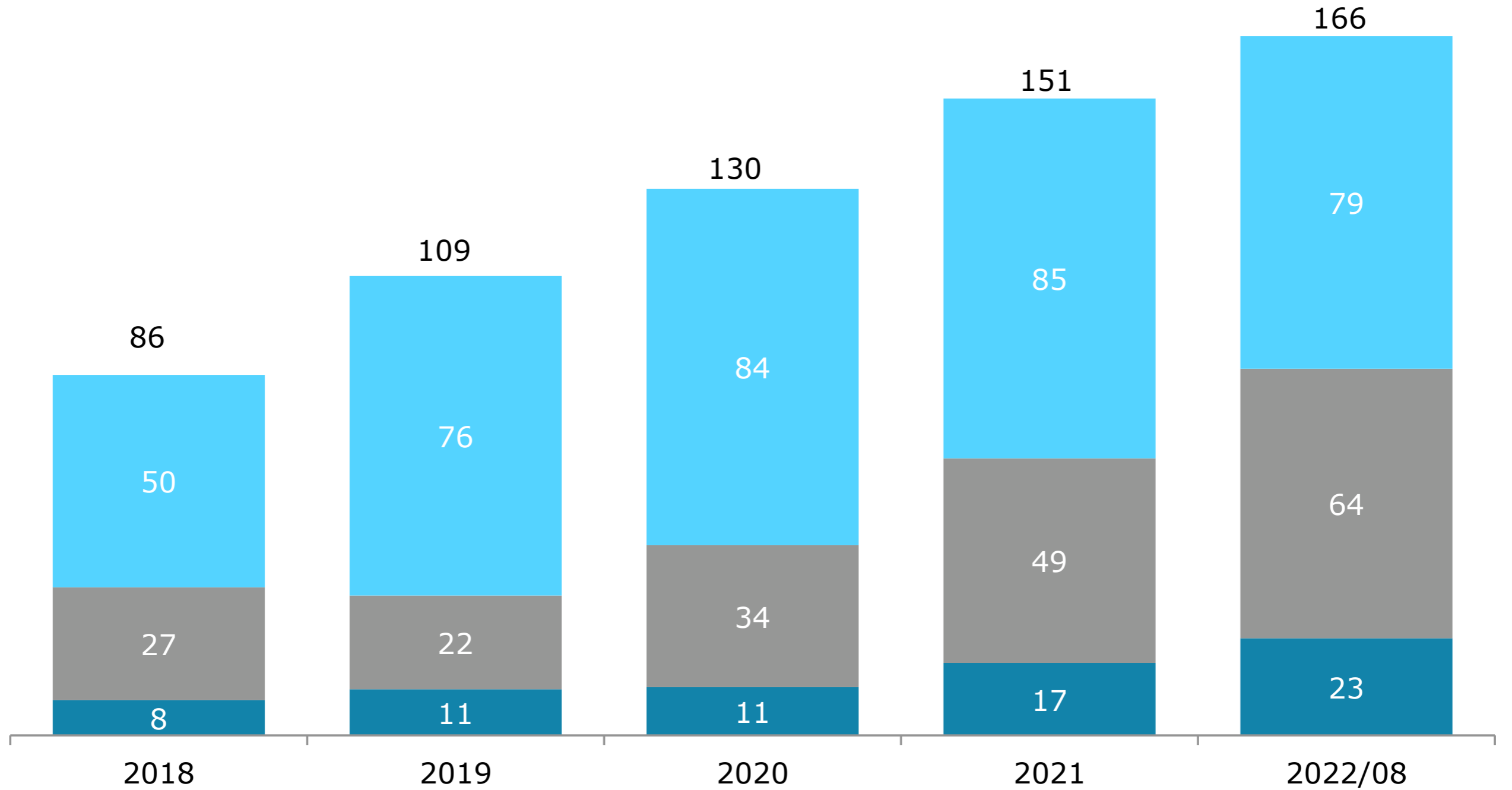


Source: WFE



# MARKET VALUE OF DOMESTIC CORPORATE DEBT SECURITIES (BILLION TL)

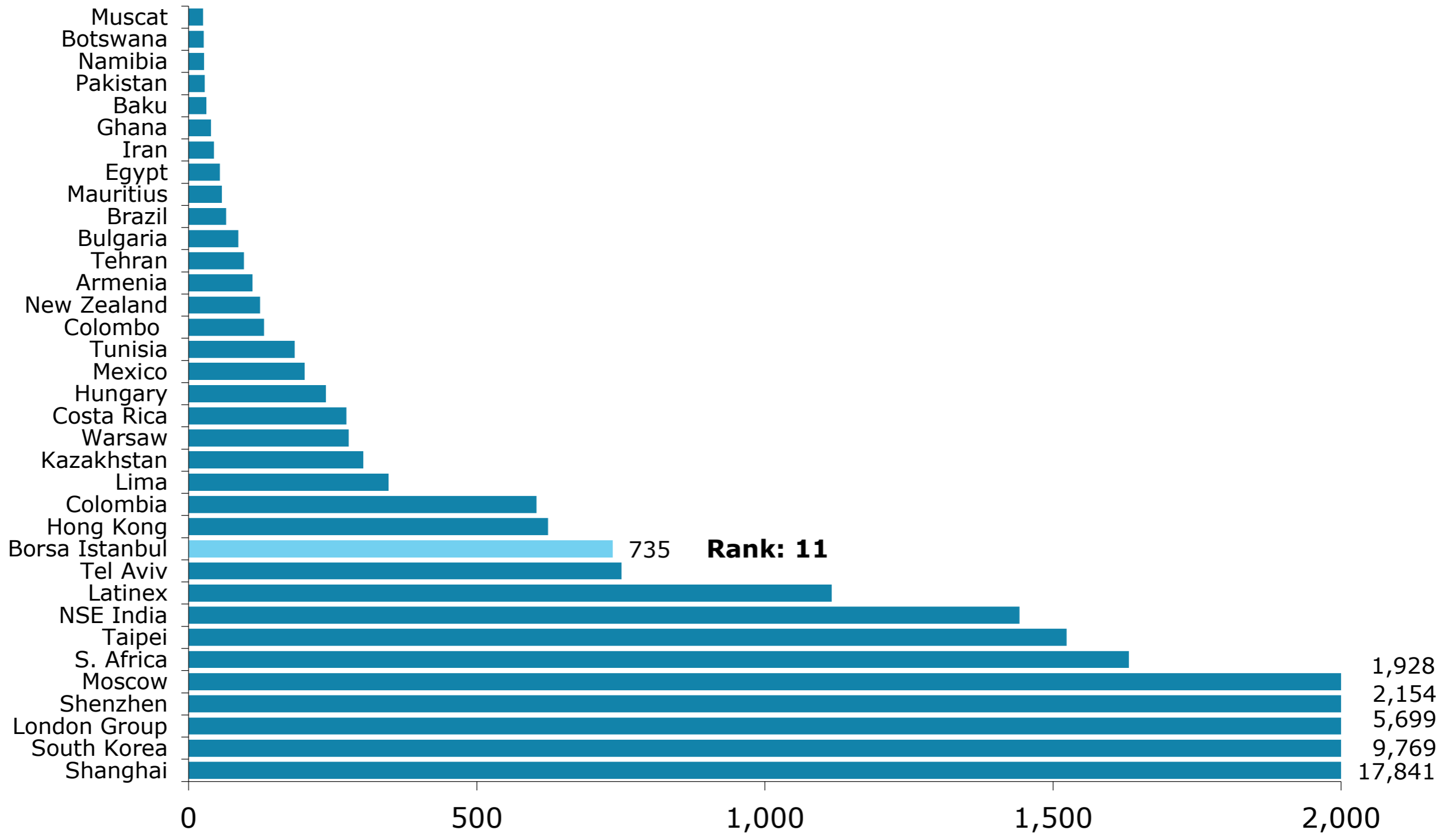
■ Bank
 ■ Non Bank-Finance
 ■ Non Finance



Source: CBRI

Lease certificates included.

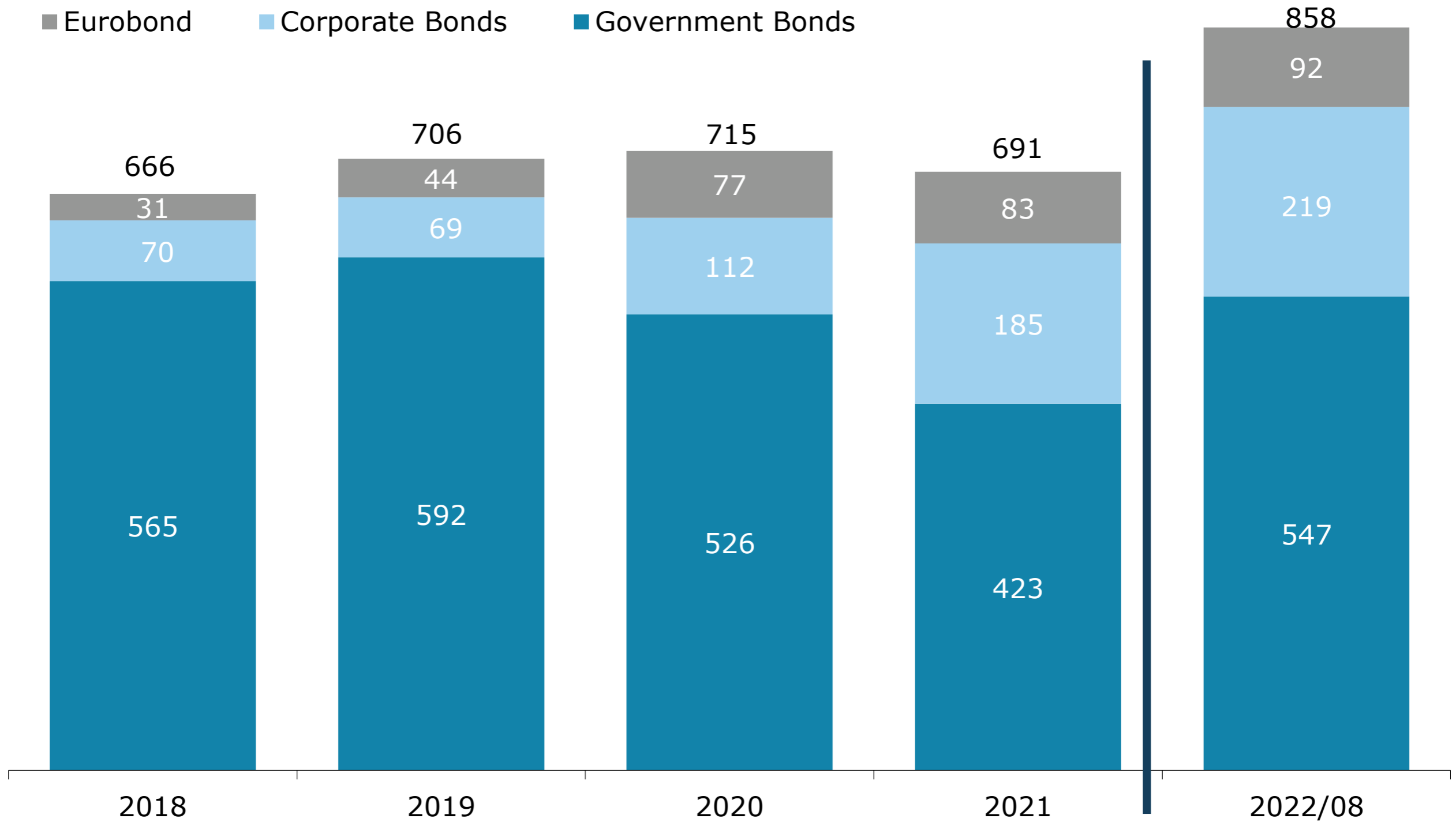
# NUMBER OF LISTED CORPORATE BONDS (2022/06)



SOURCE: WFL

# BOND TRADING VOLUME

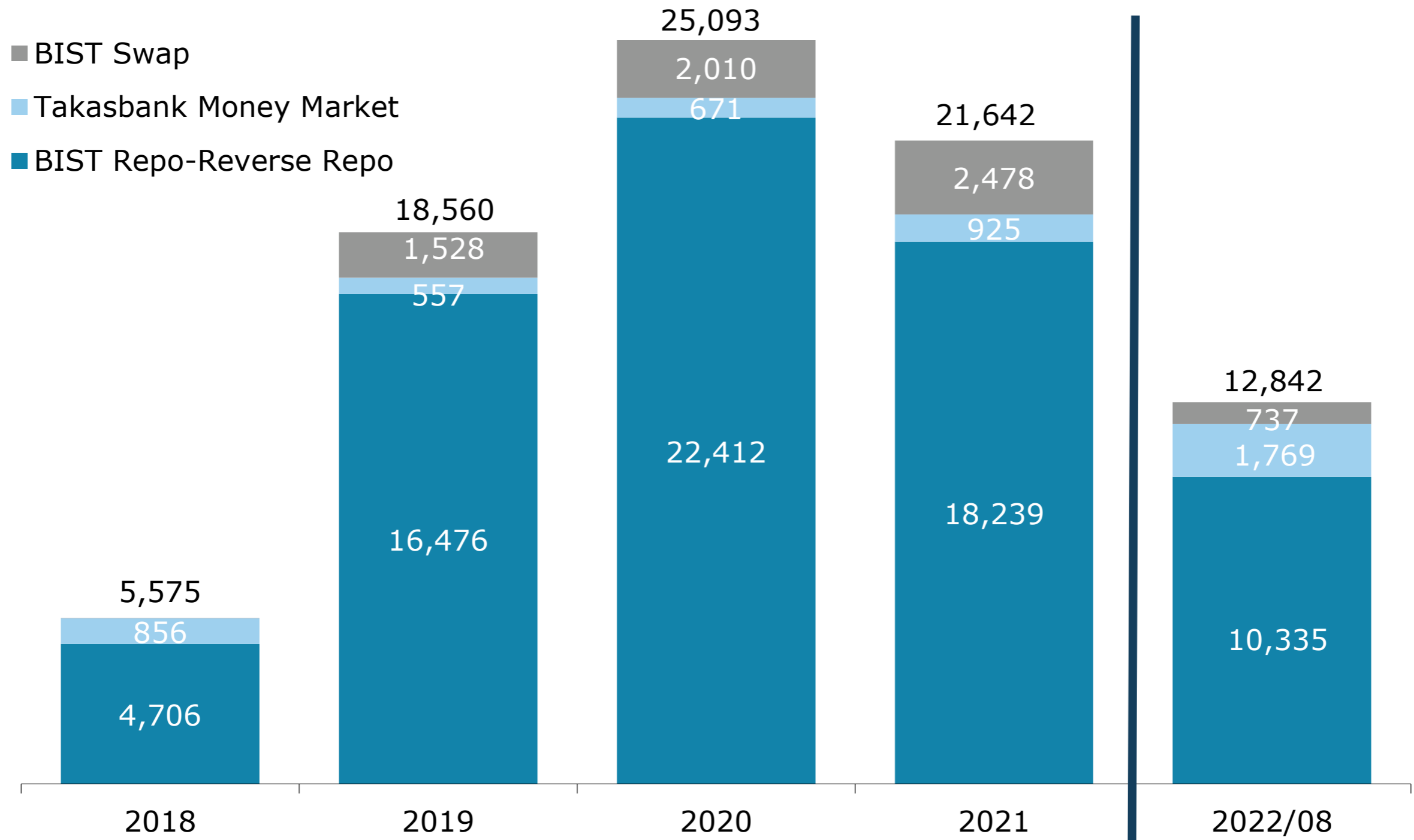
■ Eurobond    ■ Corporate Bonds    ■ Government Bonds



Source: Borsa Istanbul

OTC transactions included, as of 21.07.2022

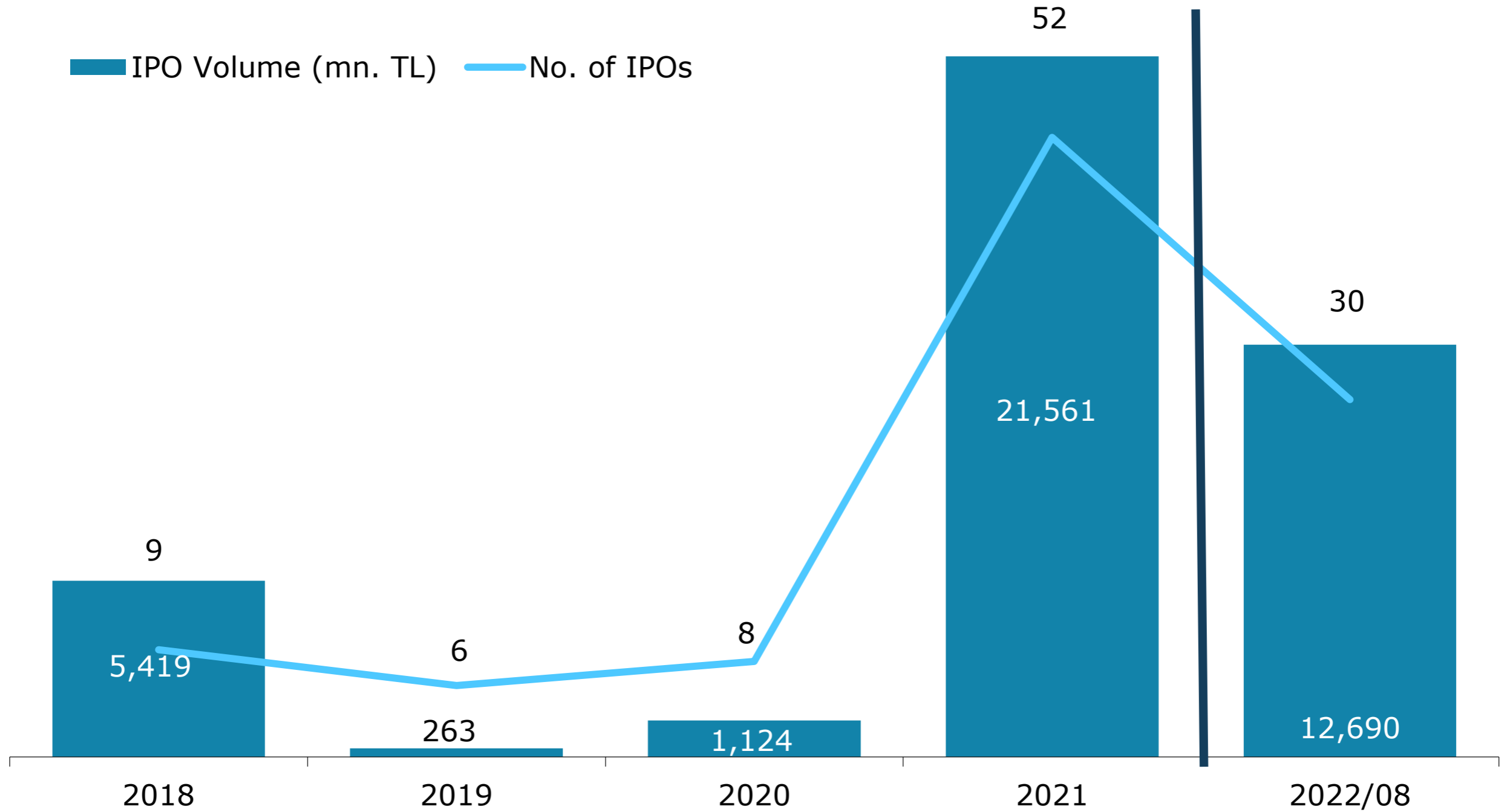
# REPO-REVERSE REPO, SWAP AND TAKASBANK MONEY MARKET TRADING VOLUME



Source: Borsa Istanbul

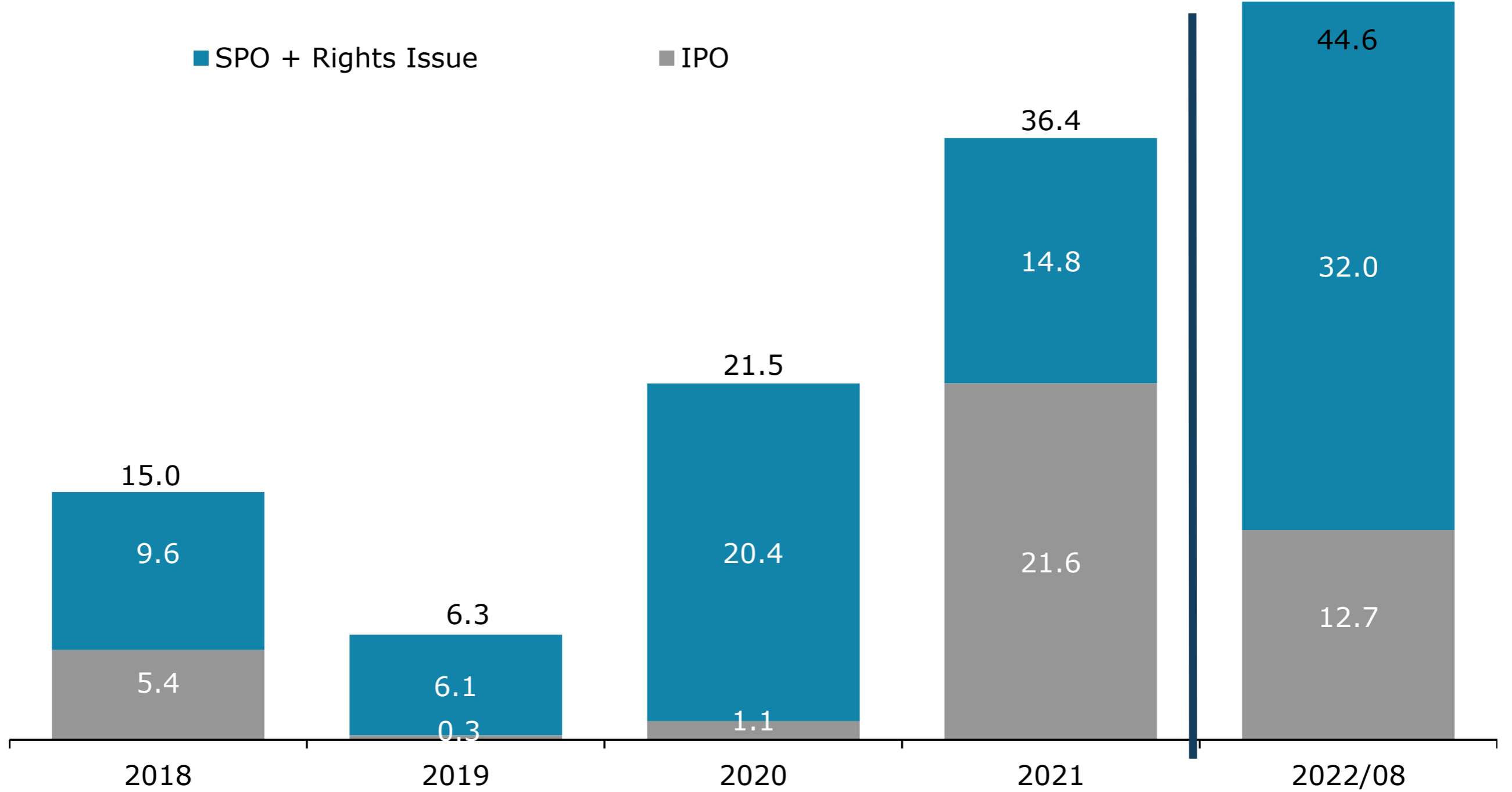
OTC transactions included, as of 20.08.2022

# INITIAL PUBLIC OFFERINGS



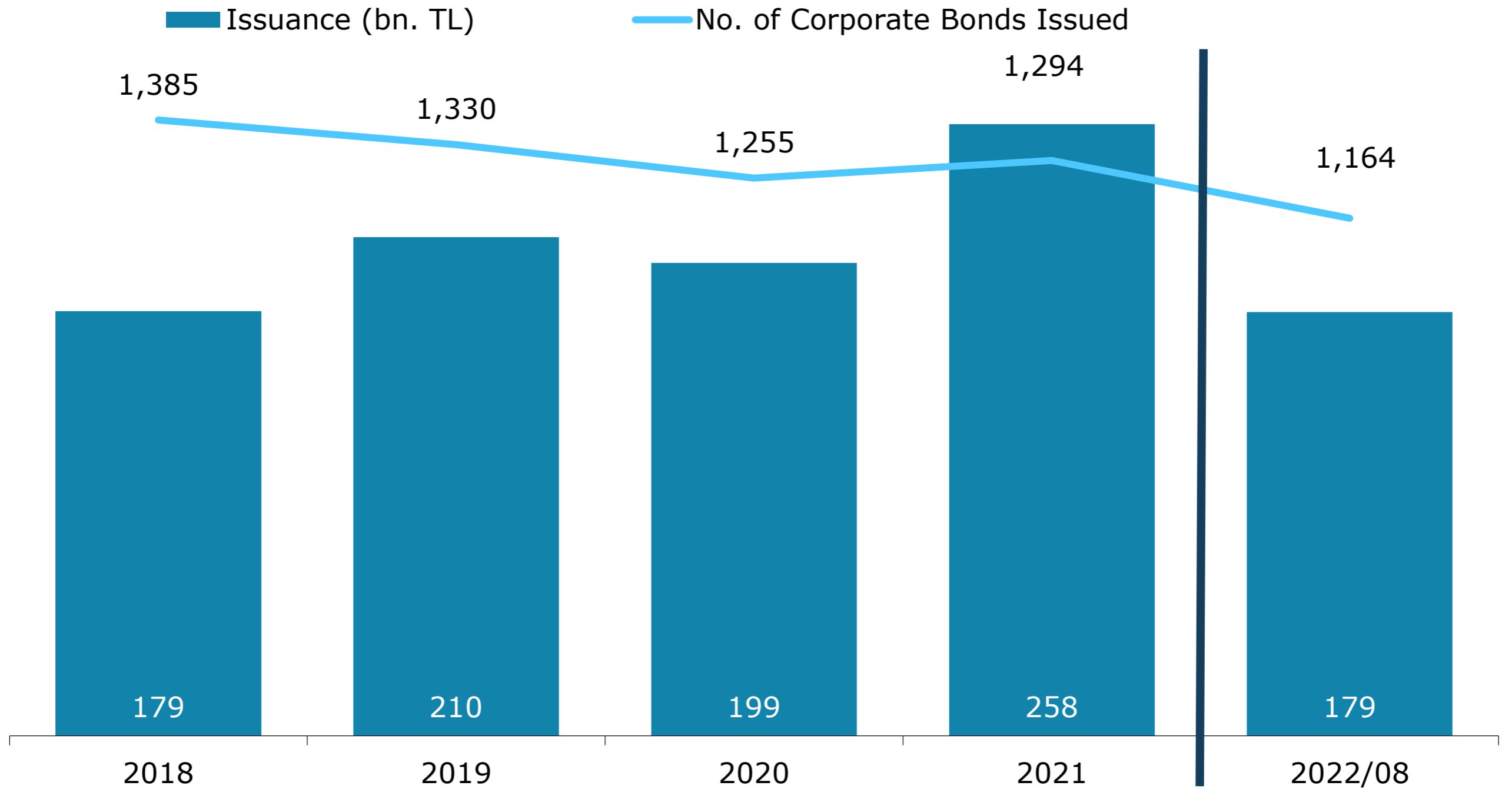
Source: Borsa Istanbul

# EQUITY FINANCING (BILLION TL)



Source: Borsa Istanbul

# CORPORATE DEBT SECURITIES ISSUANCE



Source: Borsa Istanbul

Excluding private placement

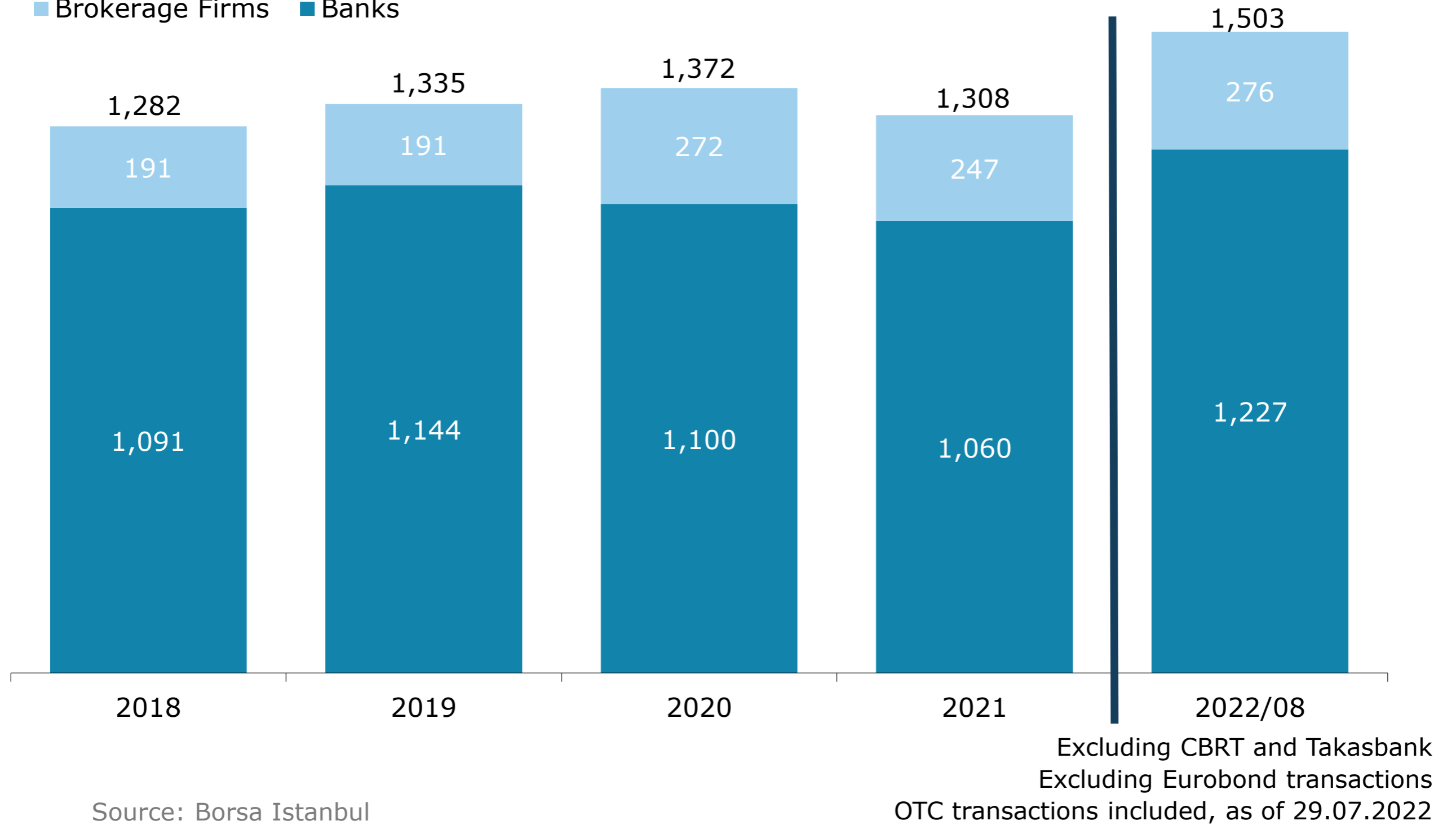
# INVESTMENT INSTITUTIONS





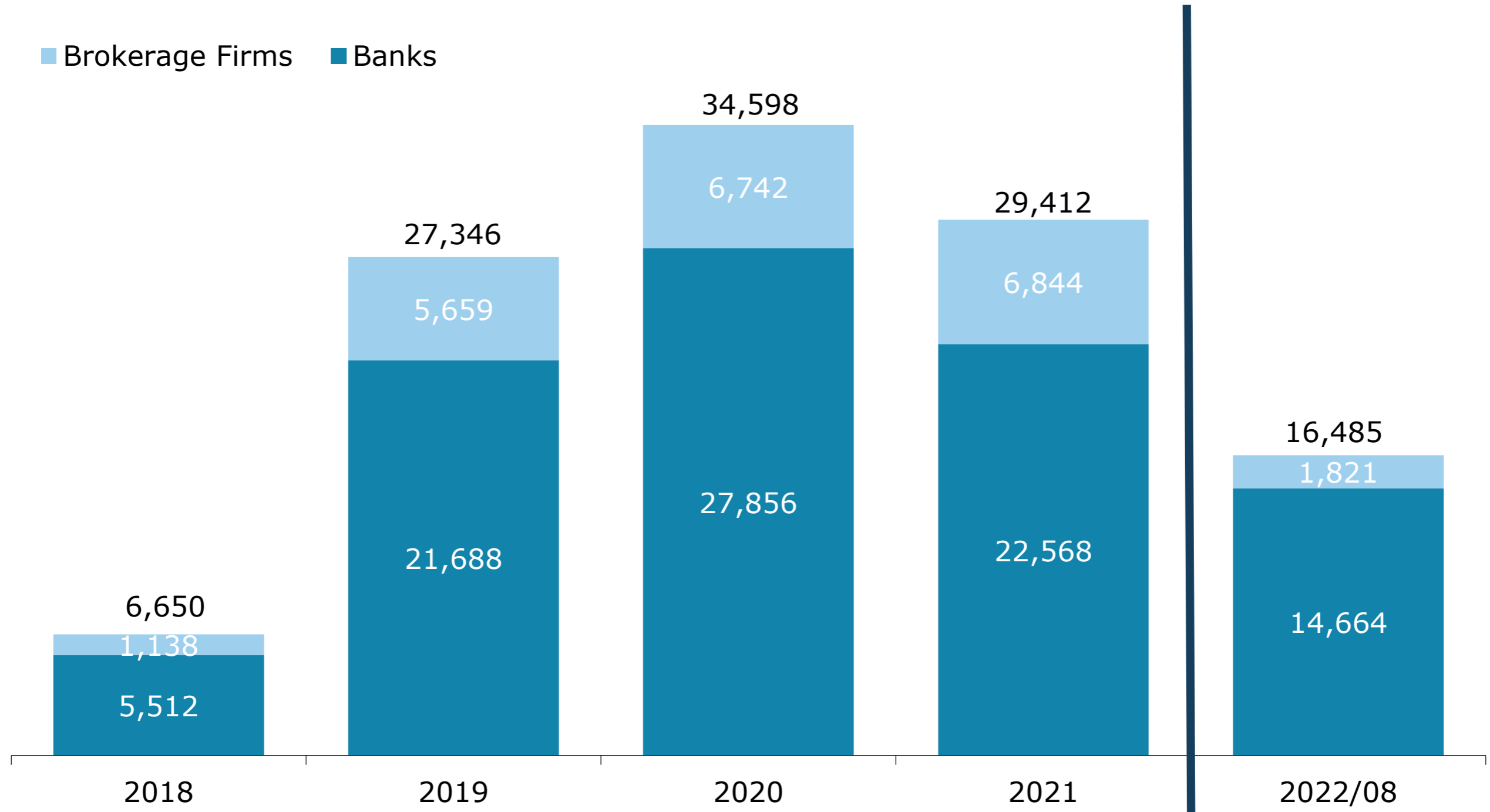
# FIXED INCOME TRADING VOLUME OF INTERMEDIARIES (BILLION TL)

■ Brokerage Firms ■ Banks



# REPO-REVERSE REPO TRADING VOLUME OF INTERMEDIARIES (BILLION TL)

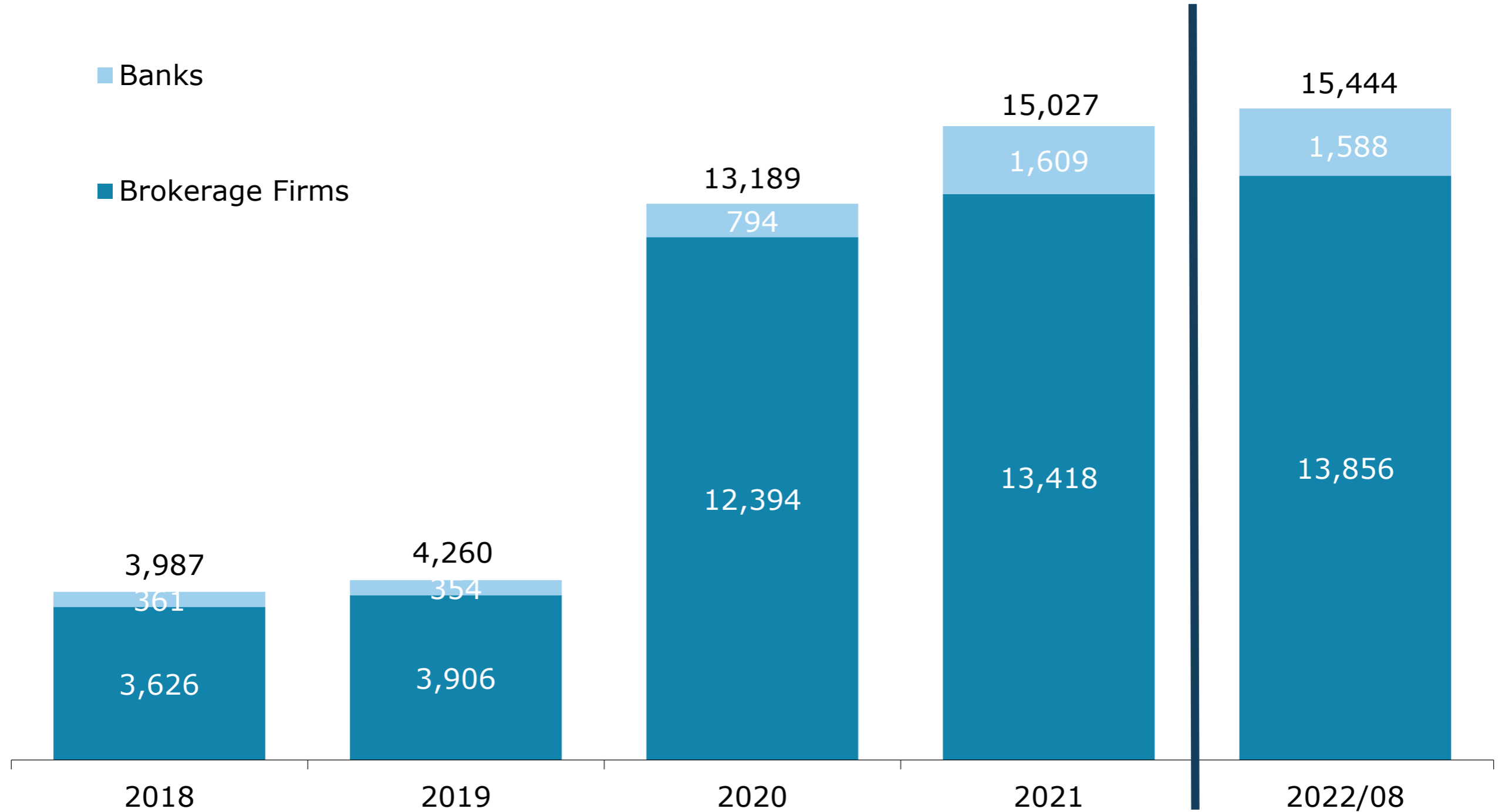
■ Brokerage Firms ■ Banks



Source: Borsa Istanbul

Excluding CBRT and Takasbank OTC transactions included, as of 29.07.2022

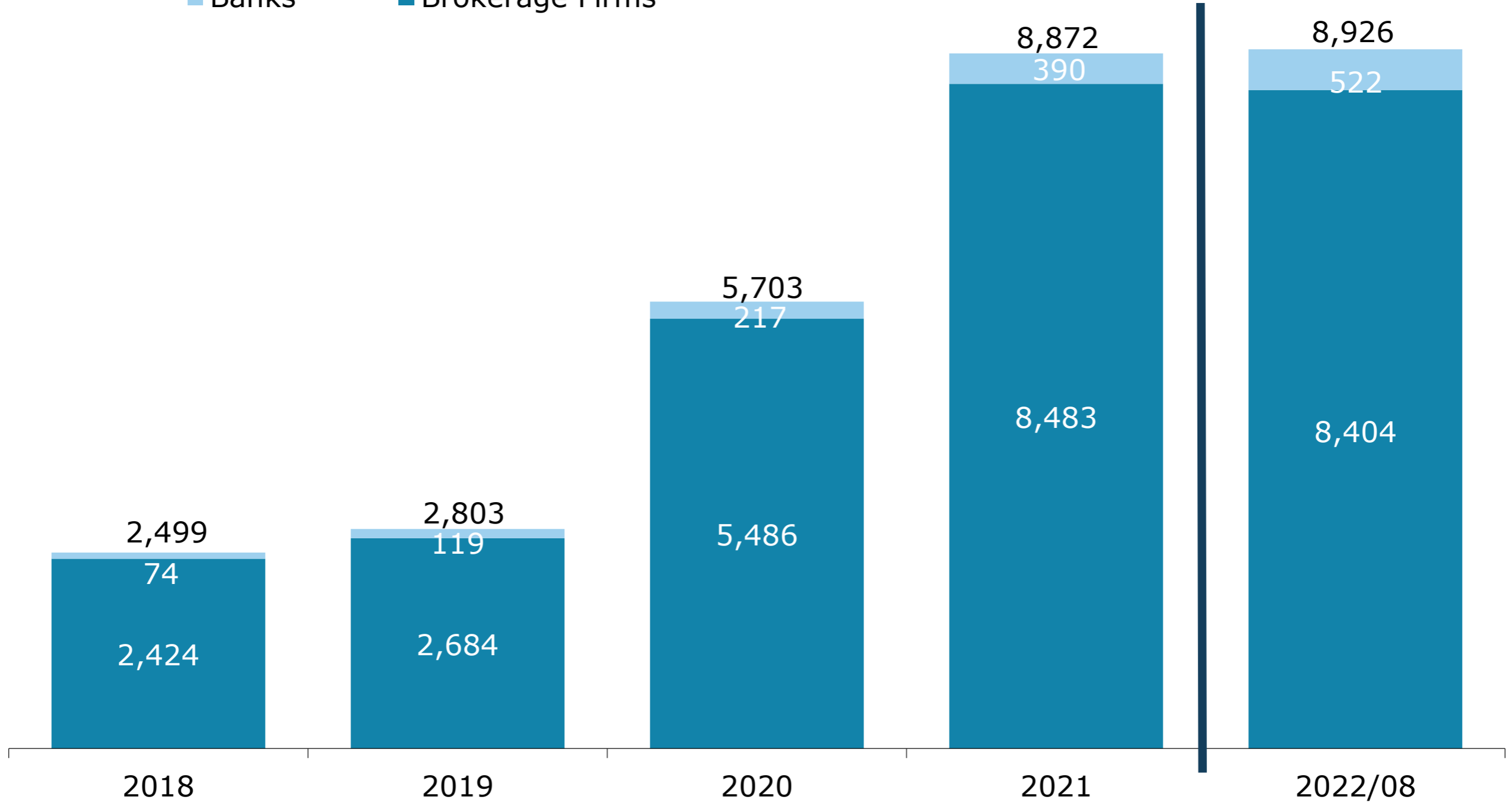
# EQUITY TRADING VOLUME OF INTERMEDIARIES (BILLION TL)



Source: Borsa Istanbul

# FUTURES TRADING VOLUME OF INTERMEDIARIES (BILLION TL)

■ Banks ■ Brokerage Firms

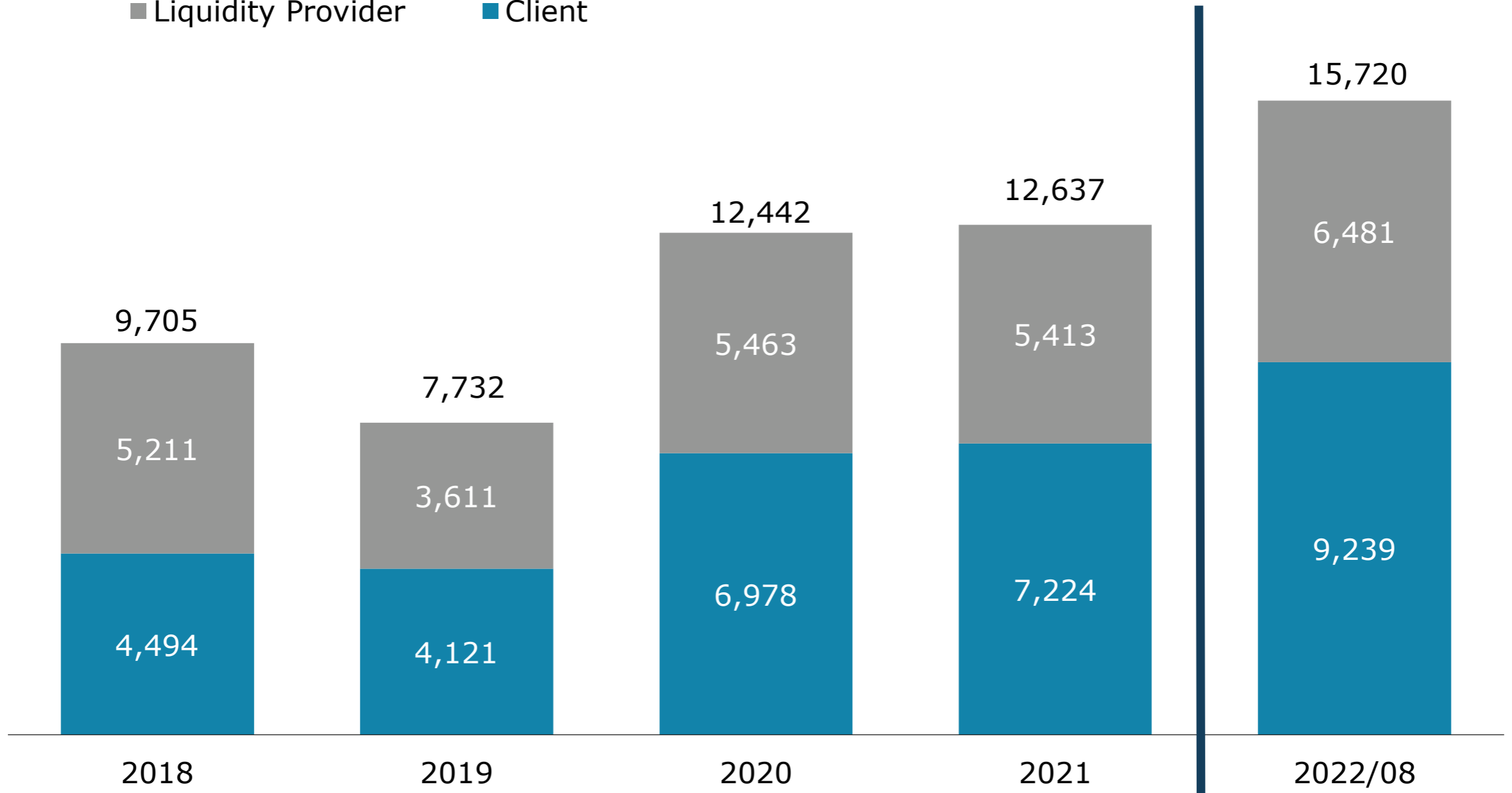


Source: Borsa Istanbul

Excluding CBRT

# FOREX TRADING VOLUME (BILLION TL)

■ Liquidity Provider    ■ Client



Source: TCMA

# CONCENTRATION IN TRADING VOLUMES (2022/08)

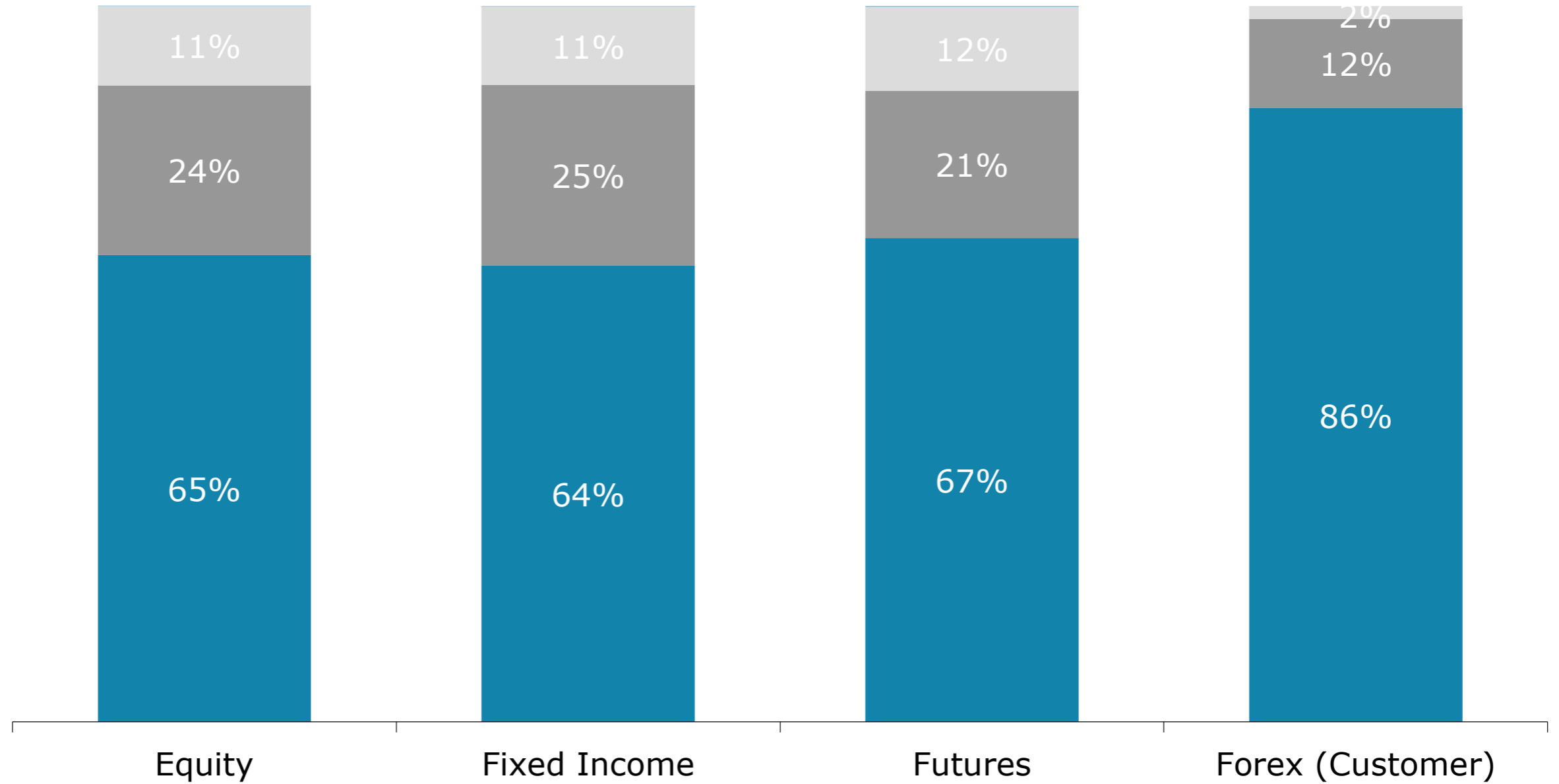
No. of Intermediaries

■ 51+

■ 21-50

■ 11-20

■ 1-10



Source: Borsa Istanbul, TCMA

## TOP 10 MEMBERS IN THE MARKETS (2022/08)

### Equity Market

1	YAPI KREDİ YATIRIM	17%
2	BANK OF AMERICA	10%
3	İŞ YATIRIM	8%
4	GARANTİ YATIRIM	6%
5	AK YATIRIM	5%
6	İFO YATIRIM	5%
7	DENİZ YATIRIM	5%
8	A1 CAPITAL	4%
9	VAKIF YATIRIM	3%
10	QNB FİNANS YATIRIM	3%
	Total (billion TL)	15,444

### Futures Market

1	YAPI KREDİ YATIRIM	22%
2	İŞ YATIRIM	9%
3	QNB FİNANS YATIRIM	6%
4	GARANTİ YATIRIM	5%
5	İFO YATIRIM	5%
6	DENİZ YATIRIM	5%
7	TACİRLER MENKUL	5%
8	AK YATIRIM	4%
9	TEB YATIRIM	4%
10	BANK OF AMERICA	3%
	Total (billion TL)	8,926

### Fixed Income Market\*

1	JPMORGAN	11%
2	HSBC BANK	9%
3	TÜRKİYE GARANTİ BANKASI	8%
4	AKTİF YATIRIM BANKASI	7%
5	DEUTSCHE BANK	6%
6	TÜRK EKONOMİ BANKASI	5%
7	TÜRKİYE İŞ BANKASI	5%
8	GEDİK YATIRIM	5%
9	YAPI VE KREDİ BANKASI	4%
10	AK YATIRIM	4%
	Total (trillion TL)	1,503

### Forex Market (Customer)

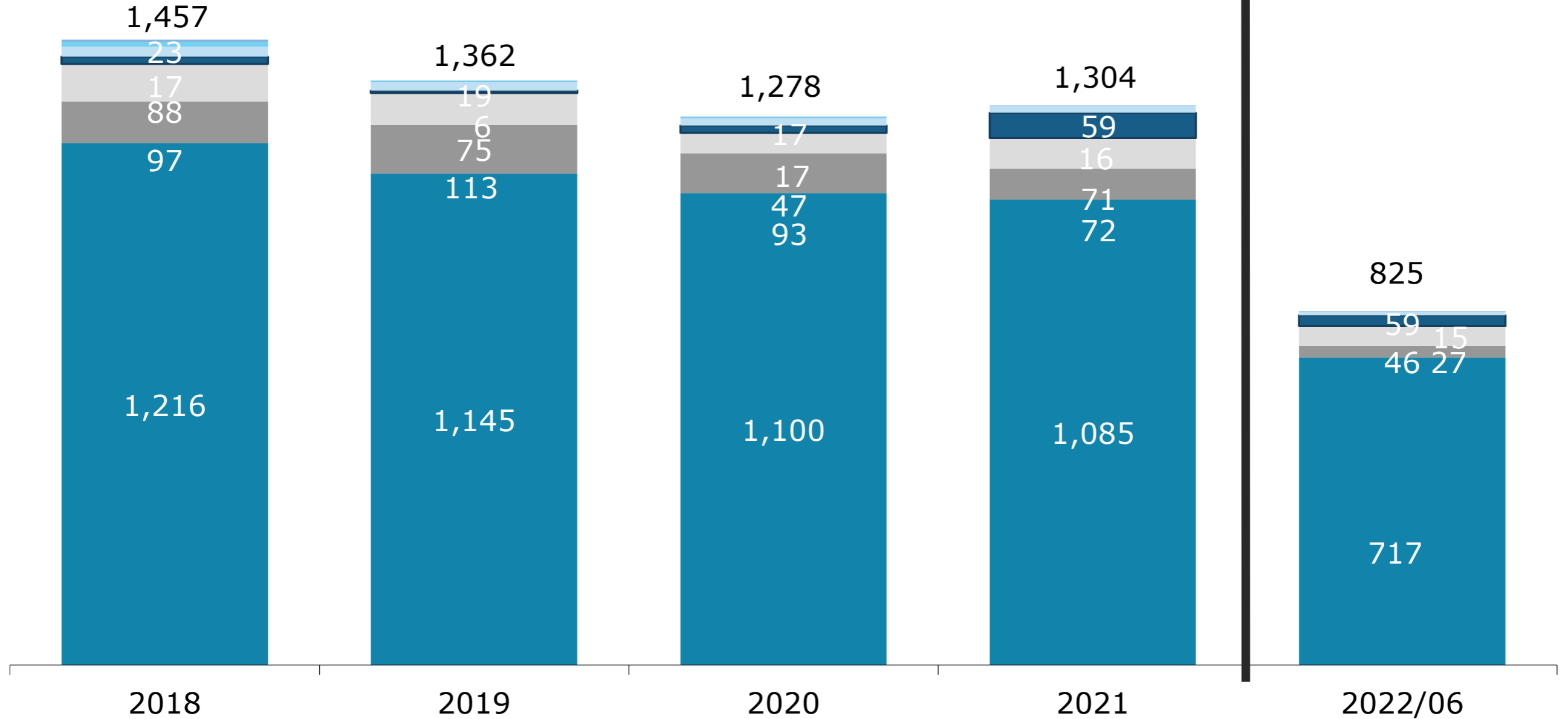
1	GCM YATIRIM	16%
2	INTEGRAL YATIRIM	15%
3	AK YATIRIM	14%
4	İFO YATIRIM	11%
5	MEKSA YATIRIM	10%
6	İŞ YATIRIM	7%
7	GEDİK YATIRIM	3%
8	TRIVE YATIRIM	3%
9	QNB FİNANS YATIRIM	3%
10	ALB YATIRIM	3%
	Total (billion TL)	9,239

Source: Borsa Istanbul, TCMA

Excluding Central Bank and Takasbank  
\*OTC transactions included, as of July 2022

# NUMBER OF FINALIZED CORPORATE FINANCE DEALS (BROKERAGE FIRMS ONLY)

- Other Financing
- IPO&SPO-Equities
- Bond Issuance
- Privatization
- Corporate Actions
- M&A
- Other Consultancy

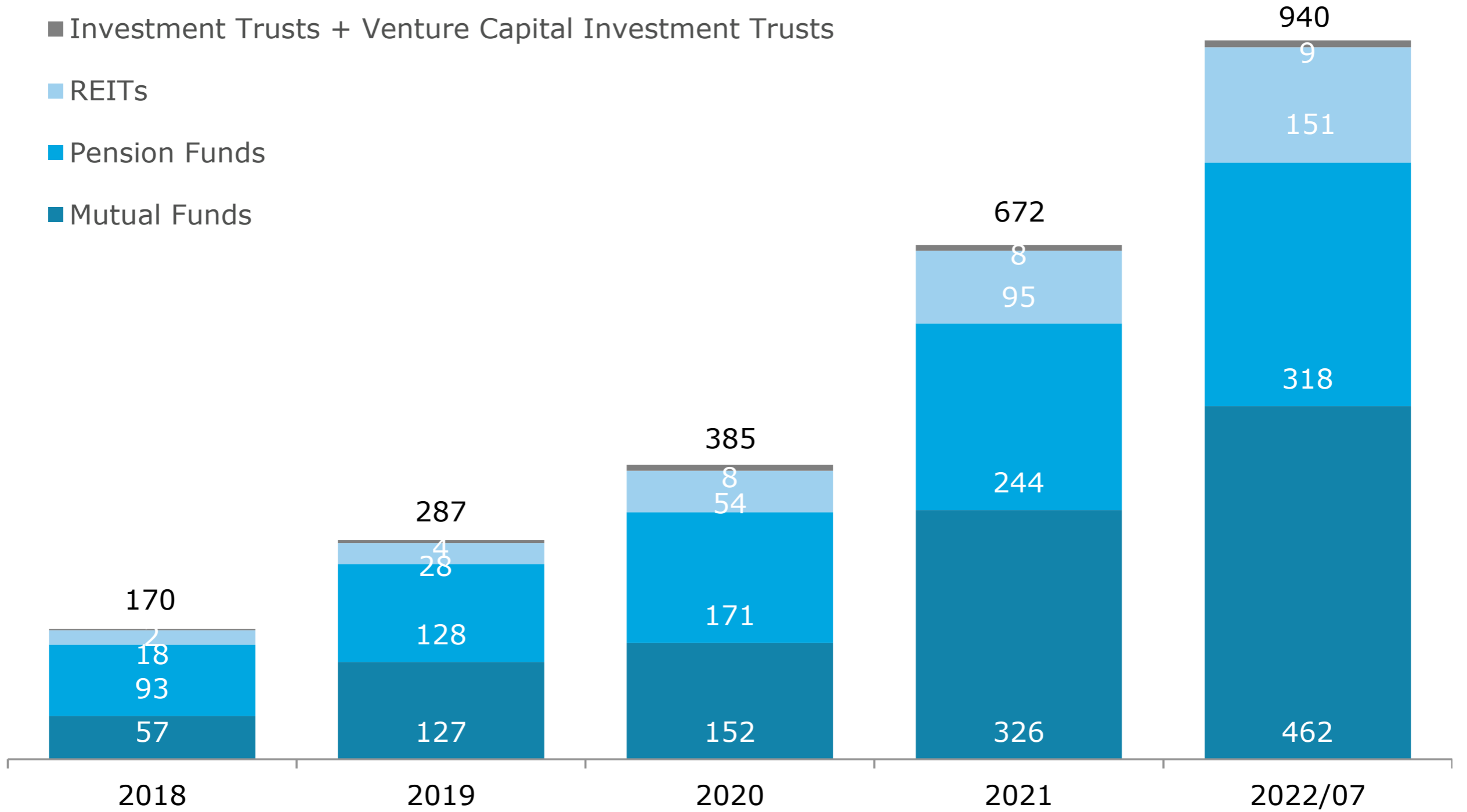


Source: TCMA



# INSTITUTIONAL INVESTMENTS (BILLION TL)

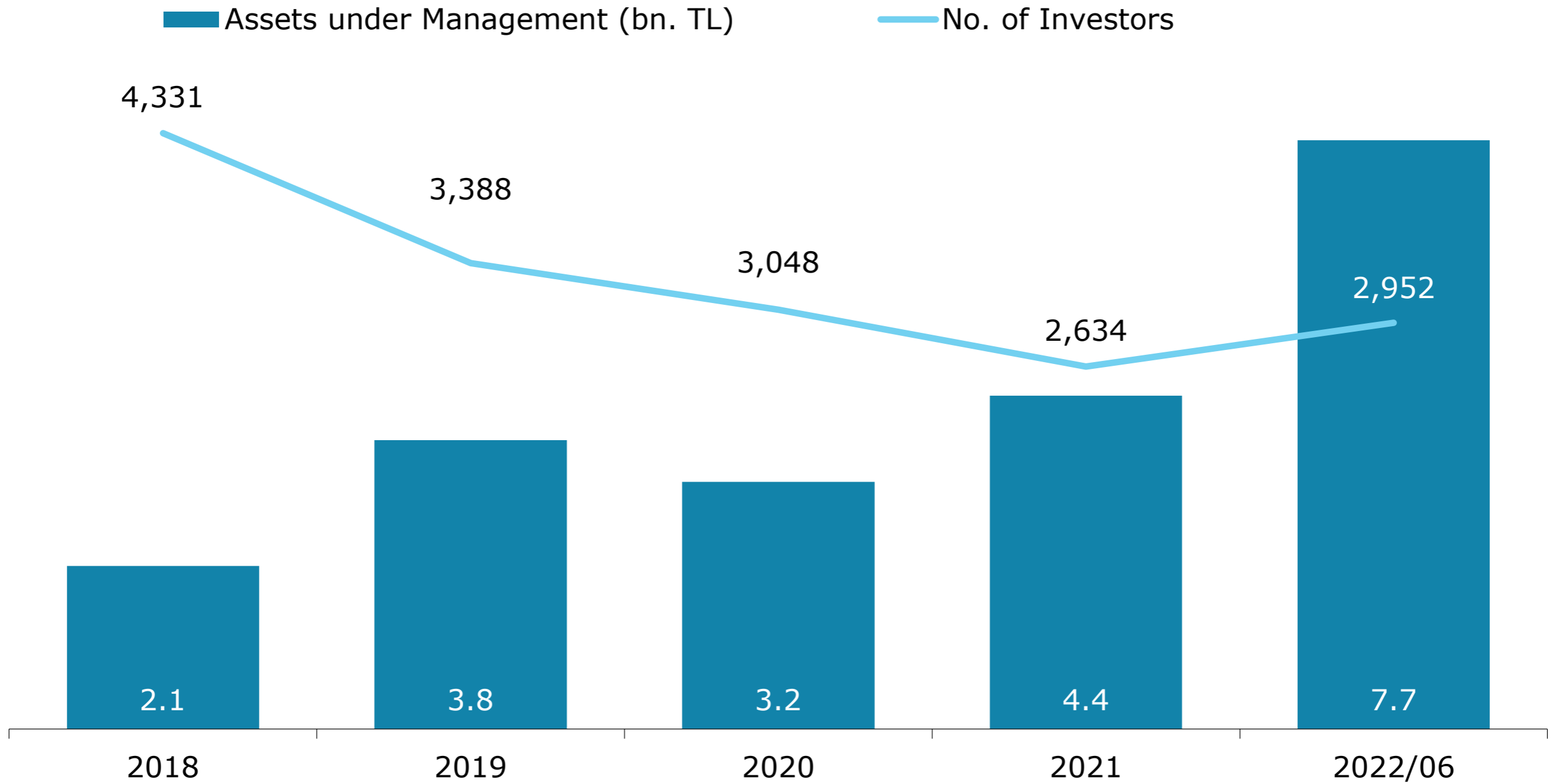
- Investment Trusts + Venture Capital Investment Trusts
- REITs
- Pension Funds
- Mutual Funds



Mcap of investment trusts

Source: Borsa Istanbul, TCMA

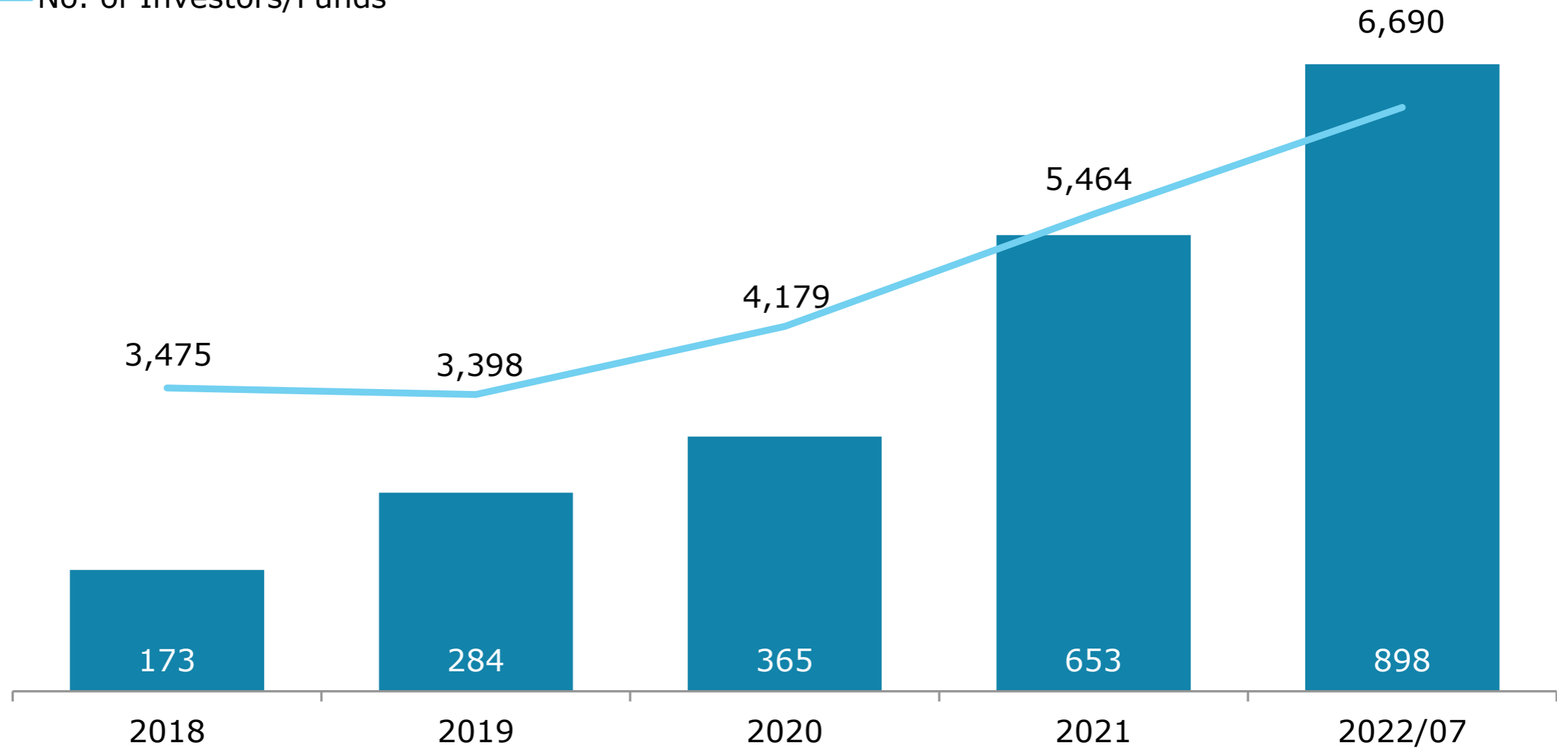
# ASSET MANAGEMENT BY BROKERAGE FIRMS



Source: TCMA

# ASSET MANAGEMENT BY ASSET MANAGEMENT COMPANIES

- Assets under Management (bn. TL)
- No. of Investors/Funds

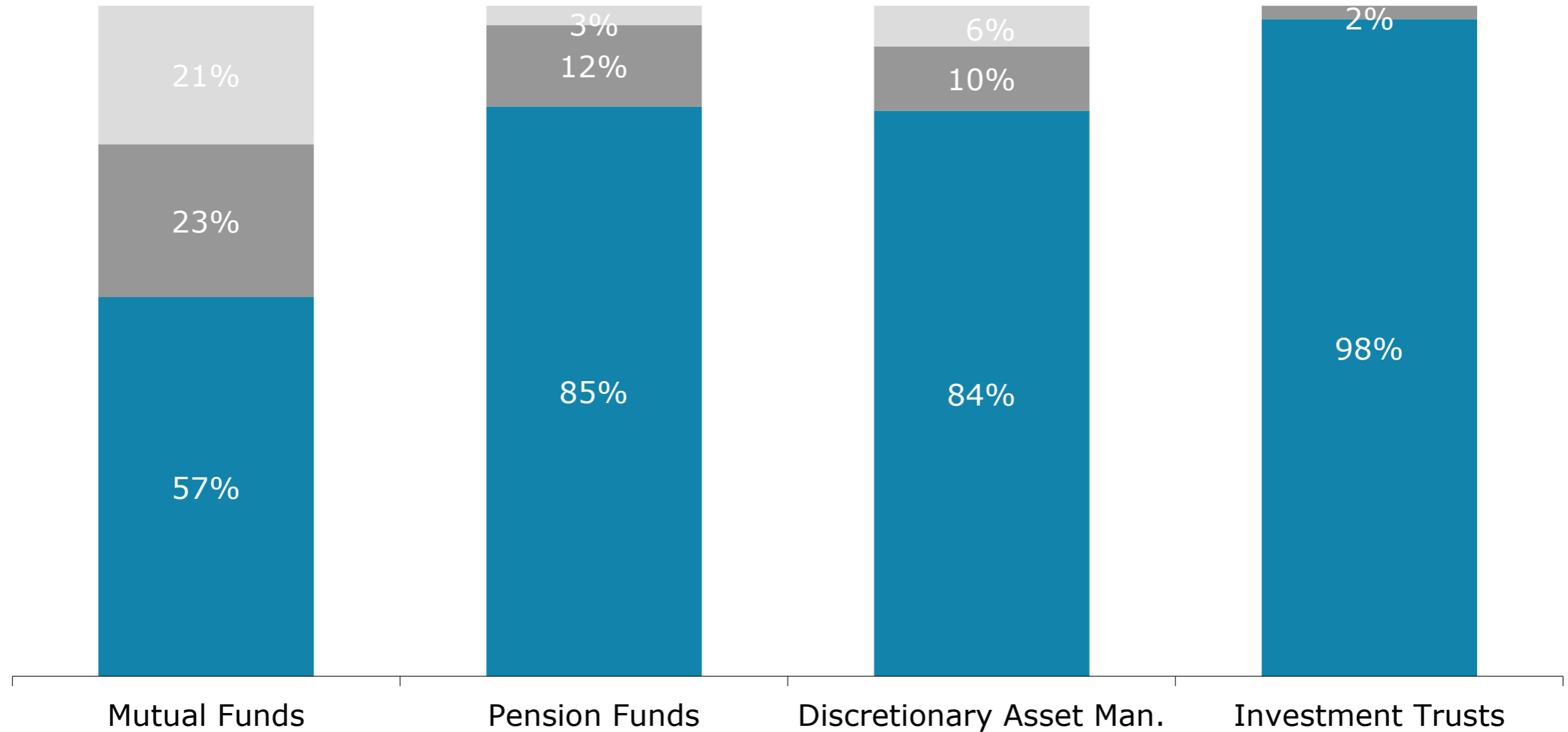


Source: TCMA

# CONCENTRATION IN ASSET MANAGEMENT FIRMS (2022/08)

Number of Asset Management Companies

■ 10+    ■ 6-10    ■ 1-5



Source: TCMA

## TOP 5 MEMBERS IN ASSET MANAGEMENT ACTIVITIES (2022/07)

### Mutual Funds

1	AK PORTFÖY	13%
2	YAPI KREDİ PORTFÖY	13%
3	İŞ PORTFÖY	12%
4	ZİRAAT PORTFÖY	10%
5	GARANTİ PORTFÖY	9%
Total (billion TL)		461.6

### Pension Funds

1	ZİRAAT PORTFÖY	22%
2	AK PORTFÖY	18%
3	İŞ PORTFÖY	17%
4	GARANTİ PORTFÖY	15%
5	YAPI KREDİ PORTFÖY	12%
Total (billion TL)		318.4

### Discretionary Asset Management

1	AZİMUT PORTFÖY	21%
2	AK PORTFÖY	20%
3	ZİRAAT PORTFÖY	18%
4	İSTANBUL PORTFÖY	13%
5	İŞ PORTFÖY	11%
Total (billion TL)		116.7

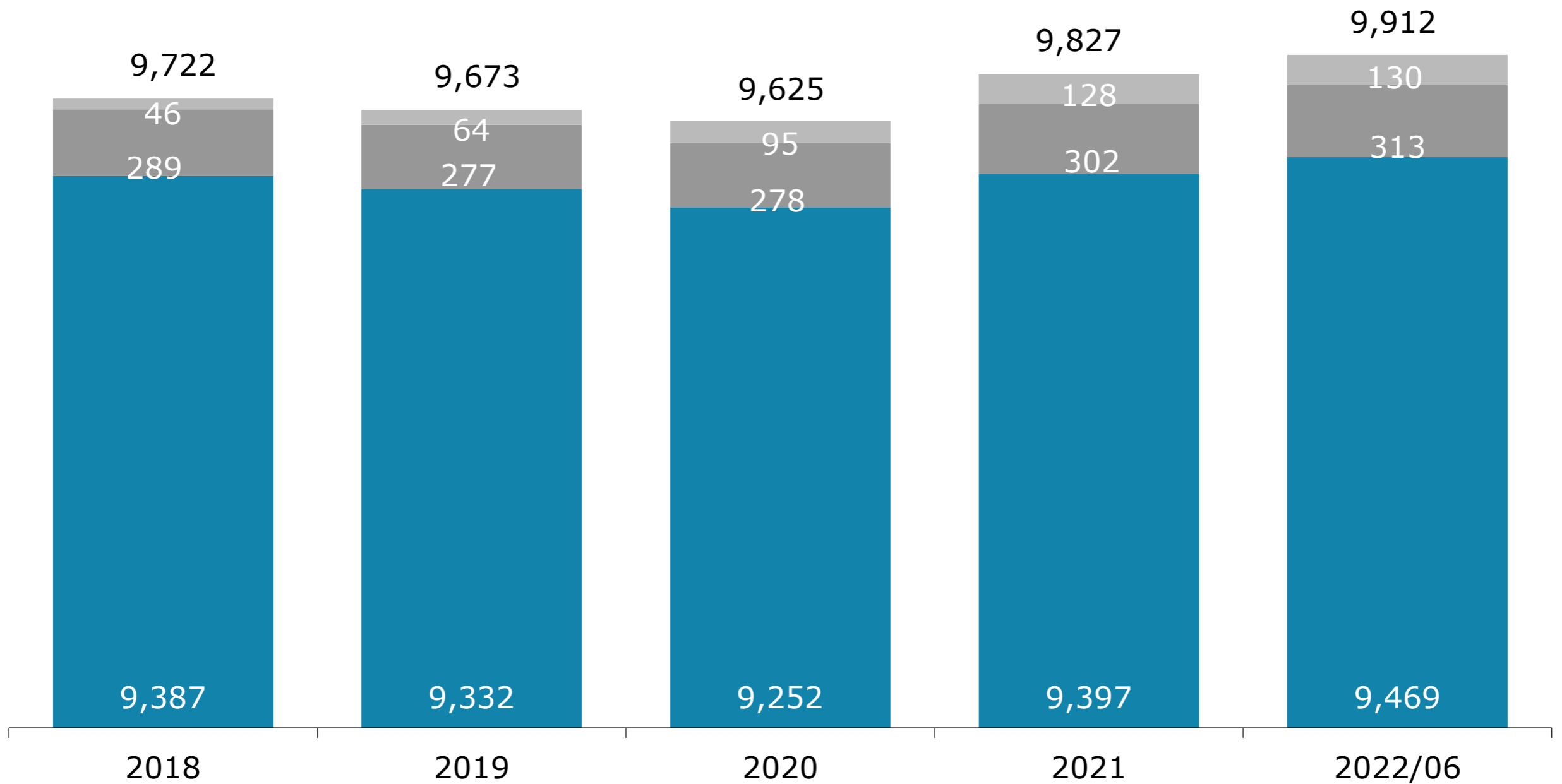
### Investment Trusts

1	METRO PORTFÖY	39%
2	İŞ PORTFÖY	29%
3	HEDEF PORTFÖY	20%
4	OYAK PORTFÖY	5%
5	GARANTİ PORTFÖY	5%
Total (billion TL)		0.95

Source: TCMA

# BROKERAGE FIRMS' BRANCH NETWORK

■ Bank Branches ■ Branches ■ Rep. Offices

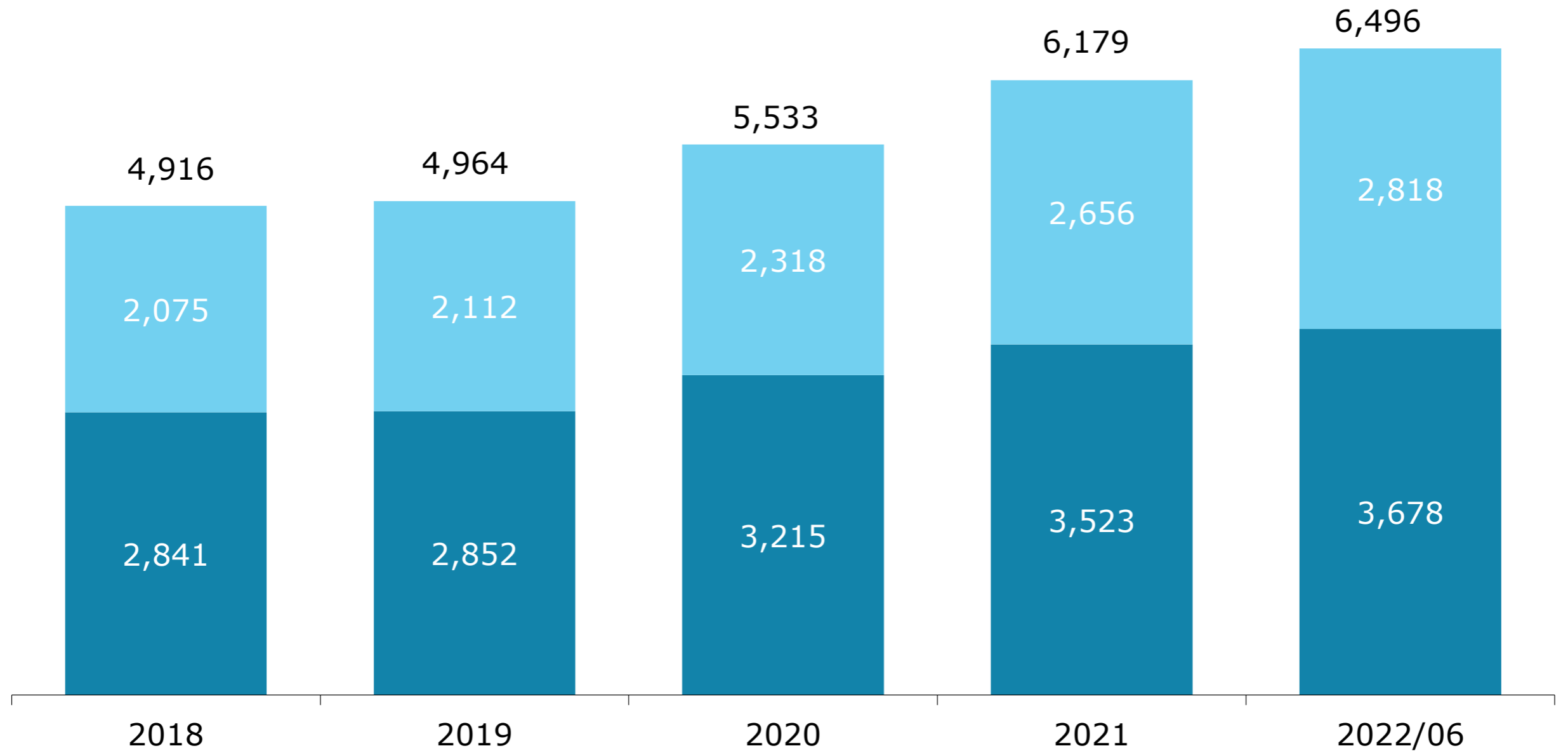


Source: TCMA

# BROKERAGE FIRMS' EMPLOYEES

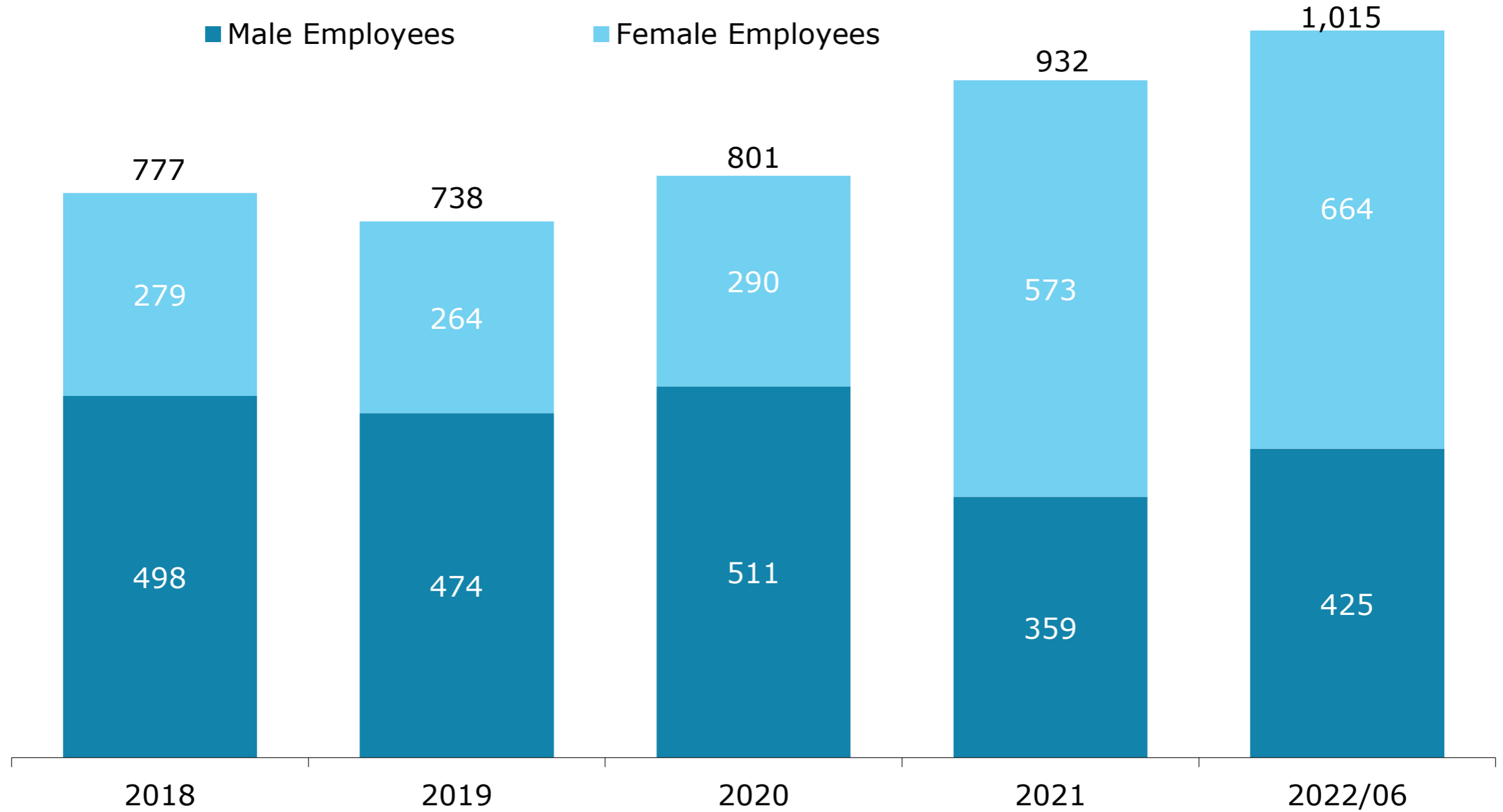
■ Male Employees

■ Female Employees



Source: TCMA

# ASSET MANAGEMENT COMPANIES' EMPLOYEES



Source: TCMA

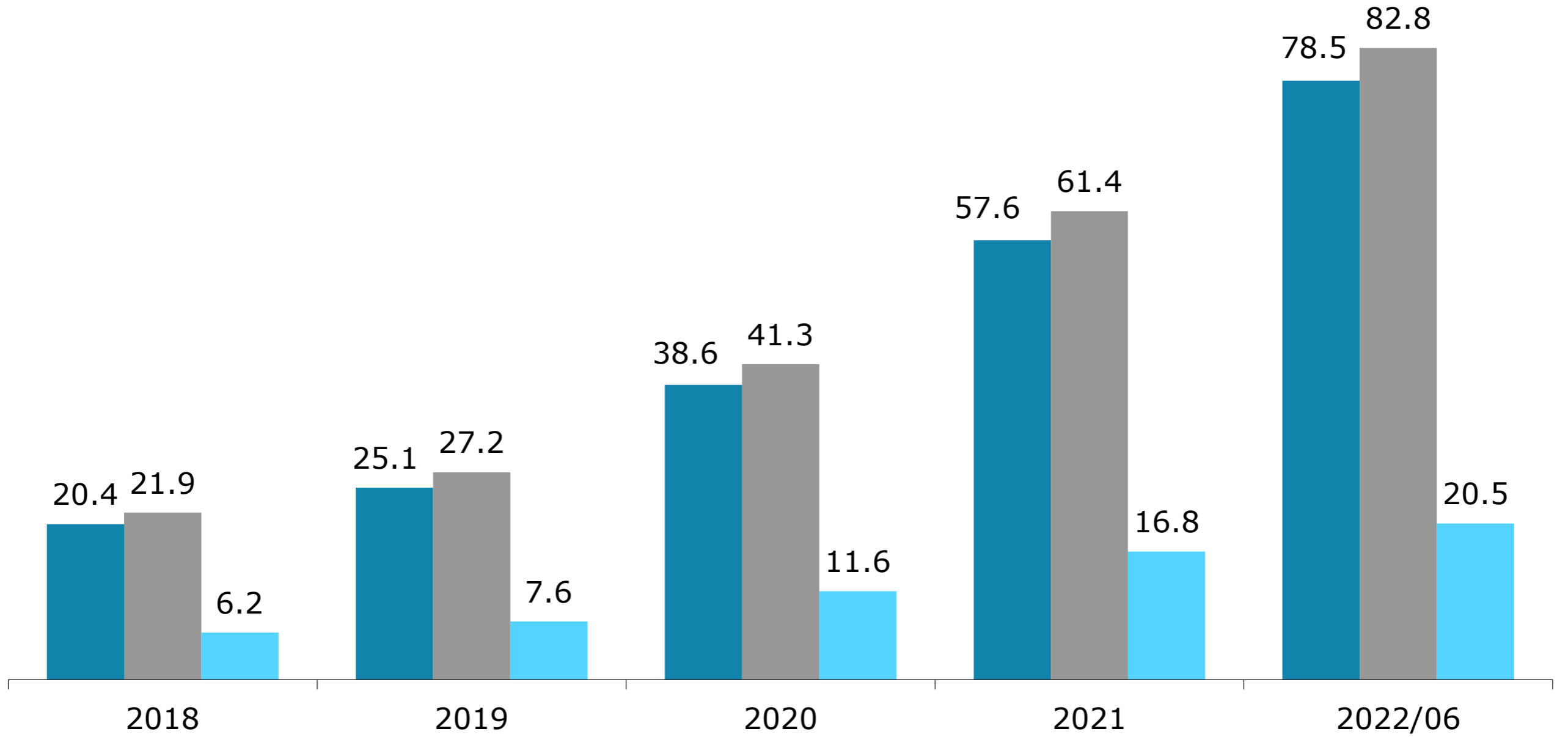


# BALANCE SHEET OF BROKERAGE FIRMS (BILLION TL)

■ Current Assets

■ Total Assets

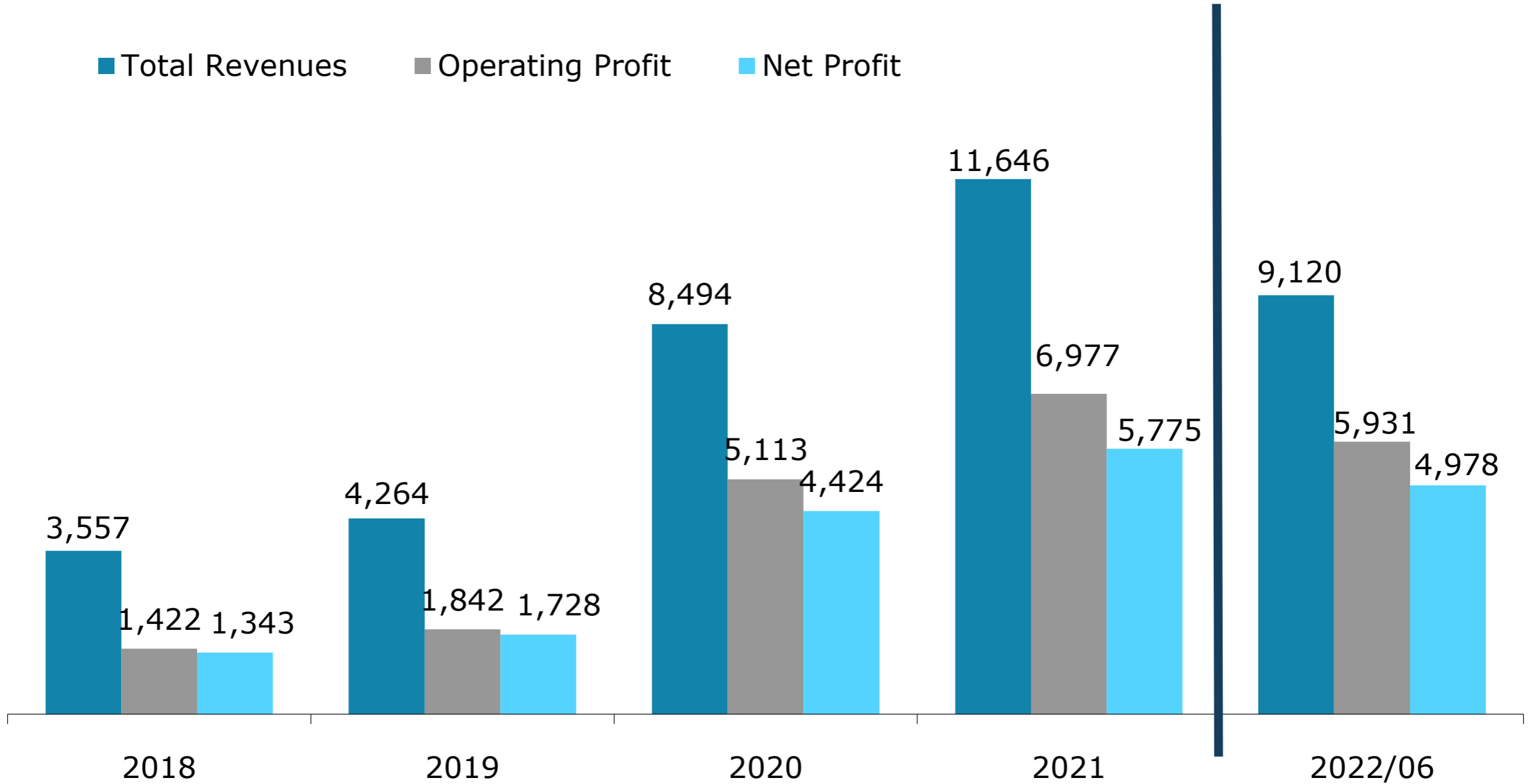
■ Shareholders' Equity



Source: TCMA

# INCOME STATEMENT OF BROKERAGE FIRMS (MILLION TL)

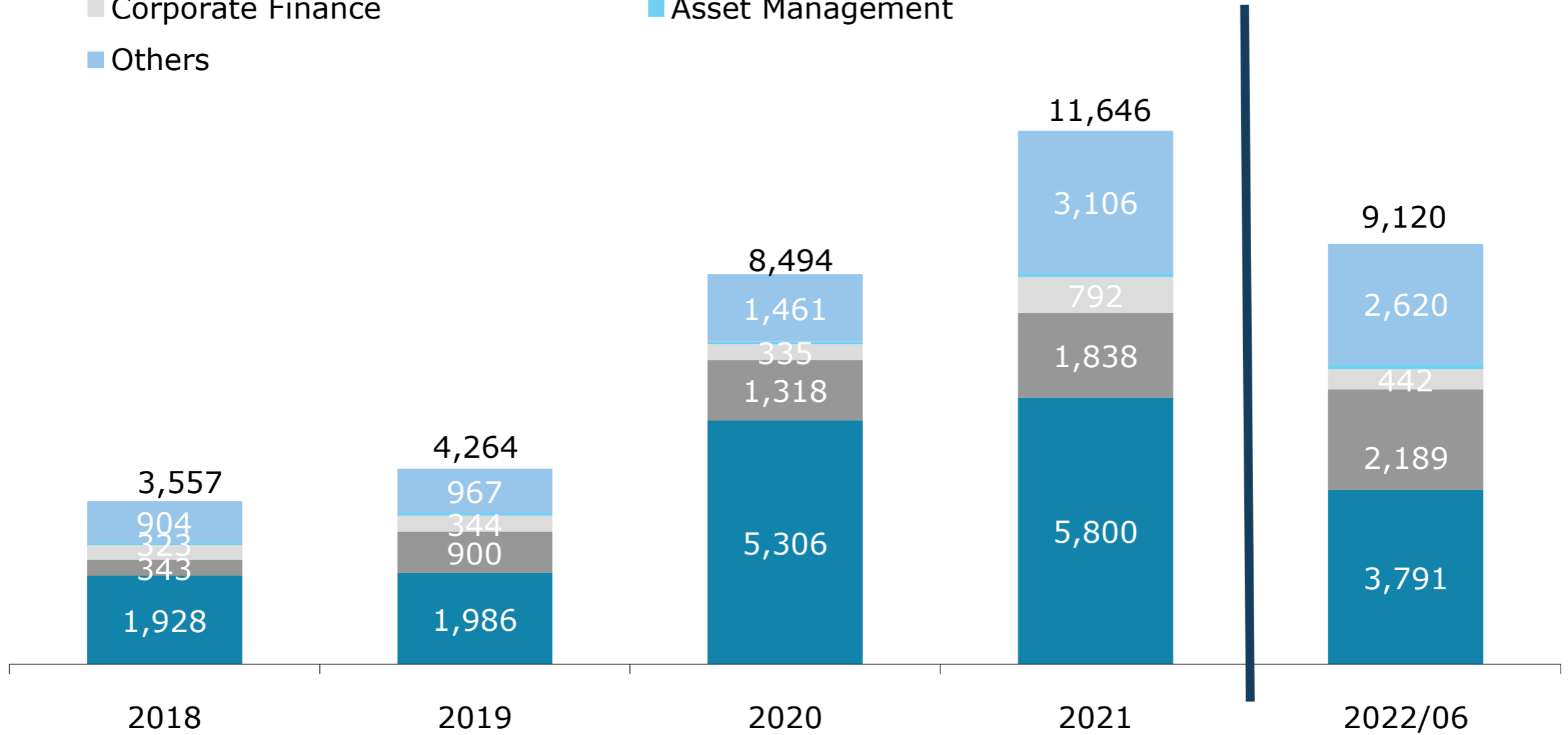
■ Total Revenues    ■ Operating Profit    ■ Net Profit



Source: TCMA

# BREAKDOWN OF BROKERAGE FIRMS' REVENUES (MILLION TL)

- Brokerage Commissions
- Corporate Finance
- Others
- Proprietary Trading Profits
- Asset Management



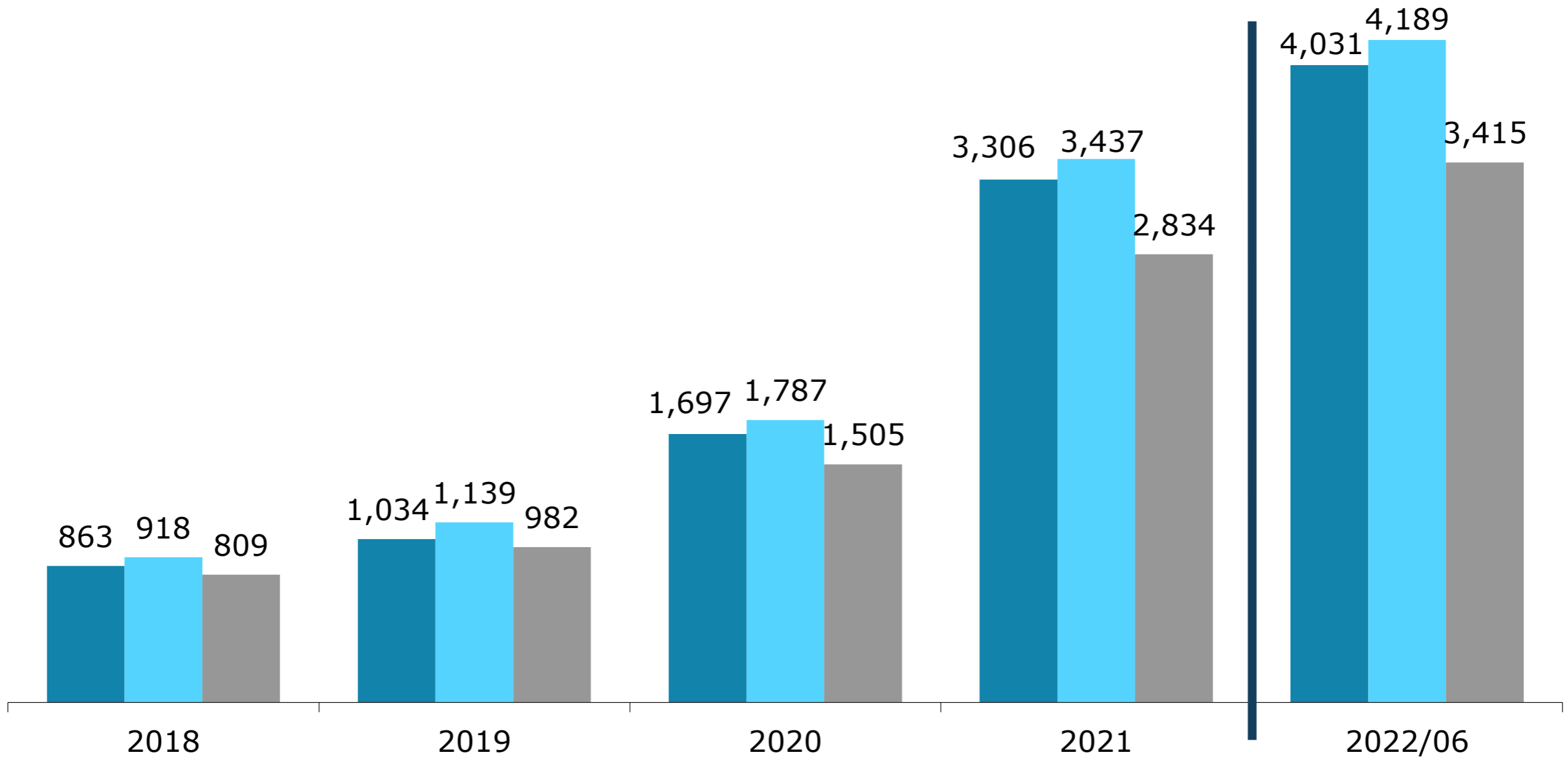
Source: TCMA

# BALANCE SHEET OF ASSET MANAGEMENT COMPANIES (MILLION TL)

■ Current Assets

■ Total Assets

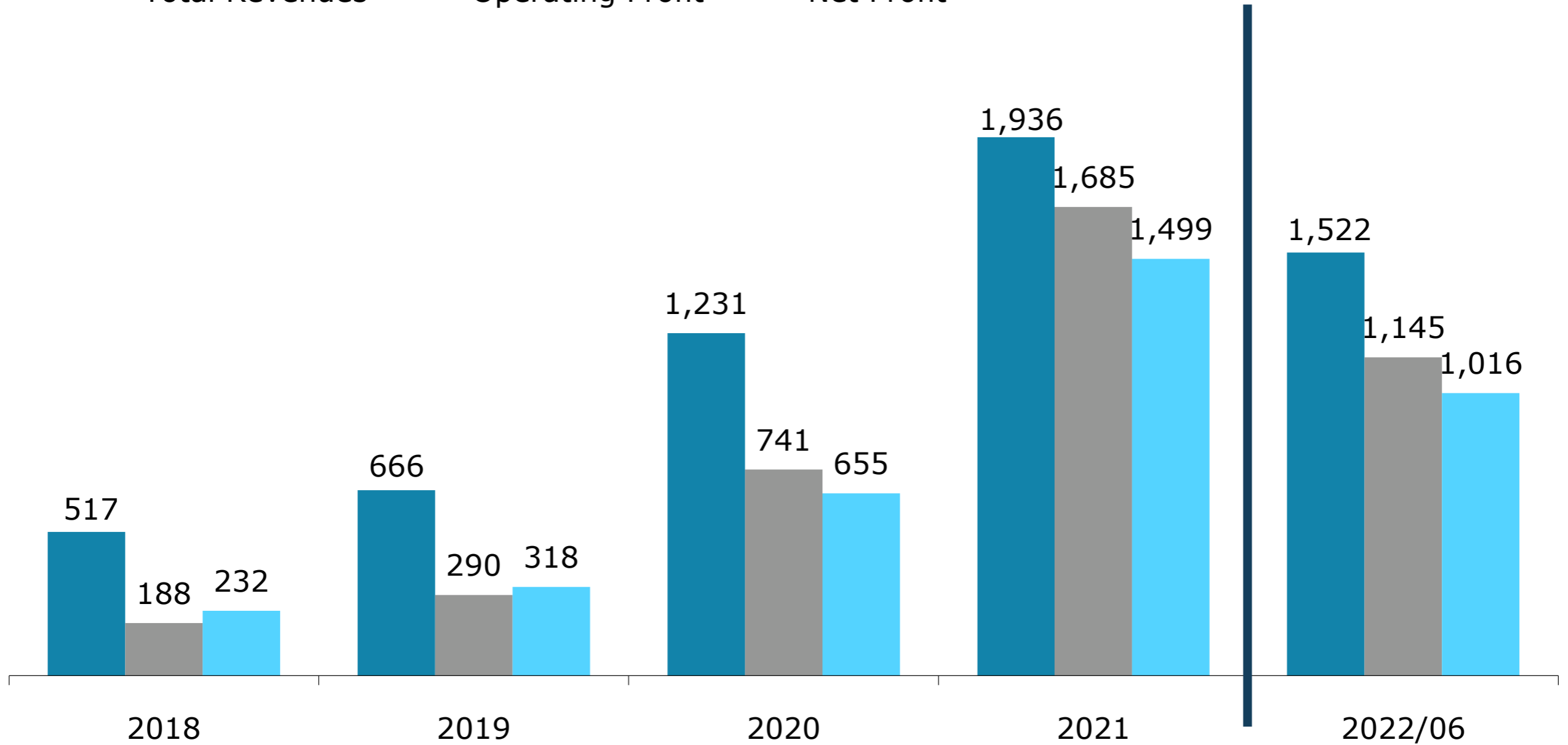
■ Shareholders' Equity



Source: TCMA

# INCOME STATEMENT OF ASSET MANAGEMENT COMPANIES (MILLION TL)

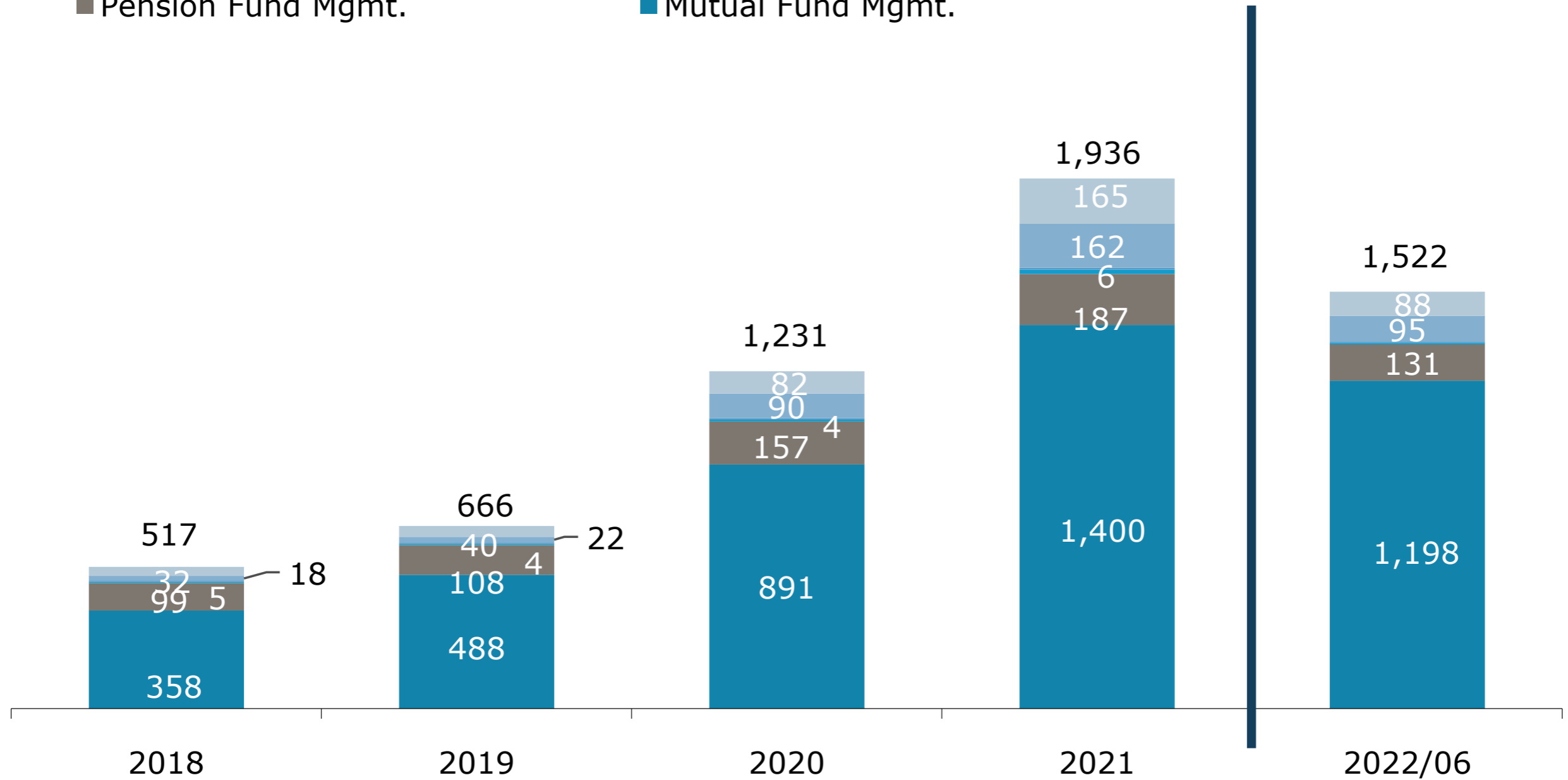
■ Total Revenues    ■ Operating Profit    ■ Net Profit



Source: TCMA

# BREAKDOWN OF ASSET MANAGEMENT COMPANIES' REVENUES (MILLION TL)

- Discretionary Asset Mgmt.
- Financial Advisory
- Pension Fund Mgmt.
- Other
- Investment Trust Mgmt.
- Mutual Fund Mgmt.

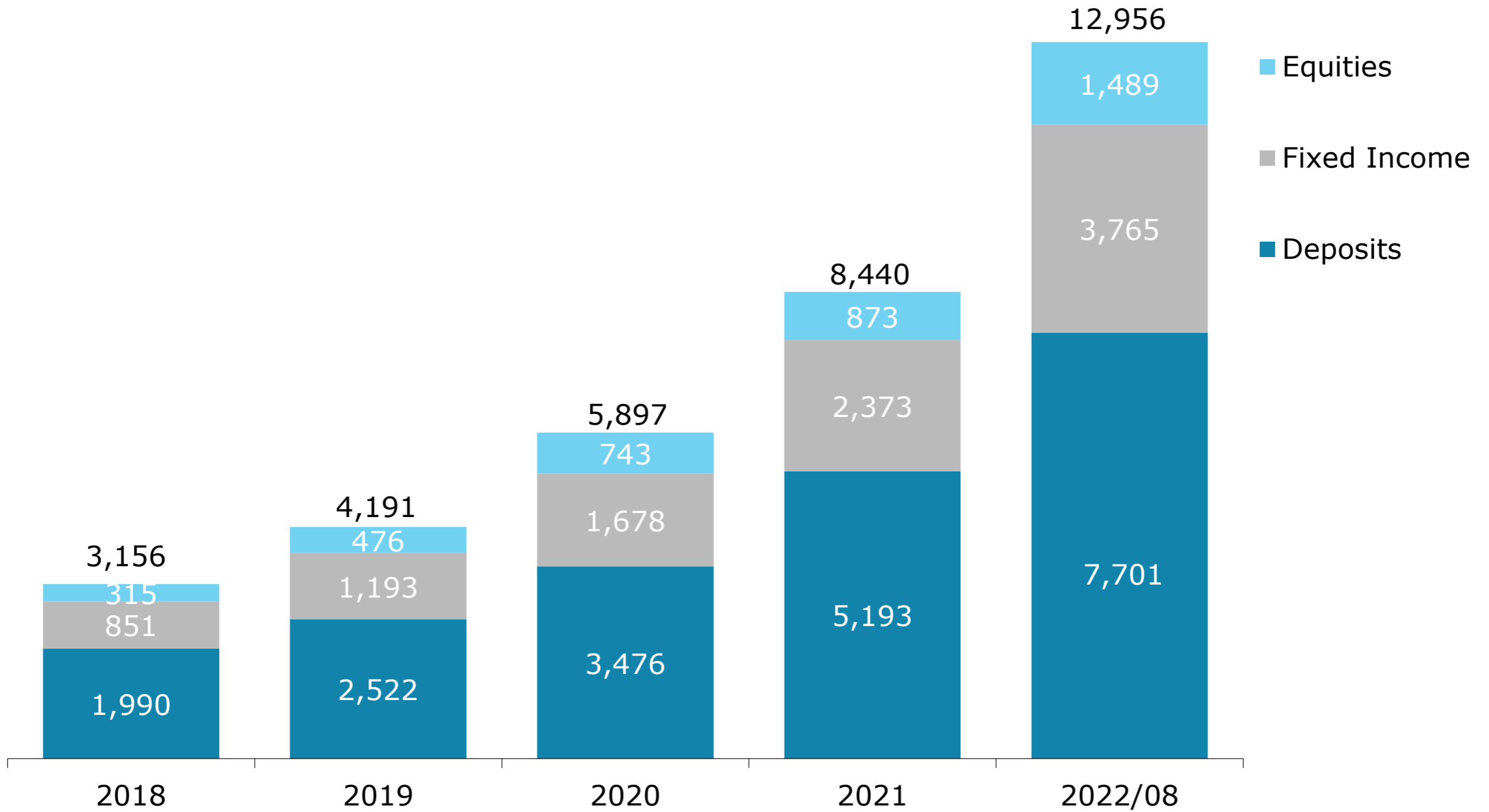


Source: TCMA

# INVESTOR PROFILE



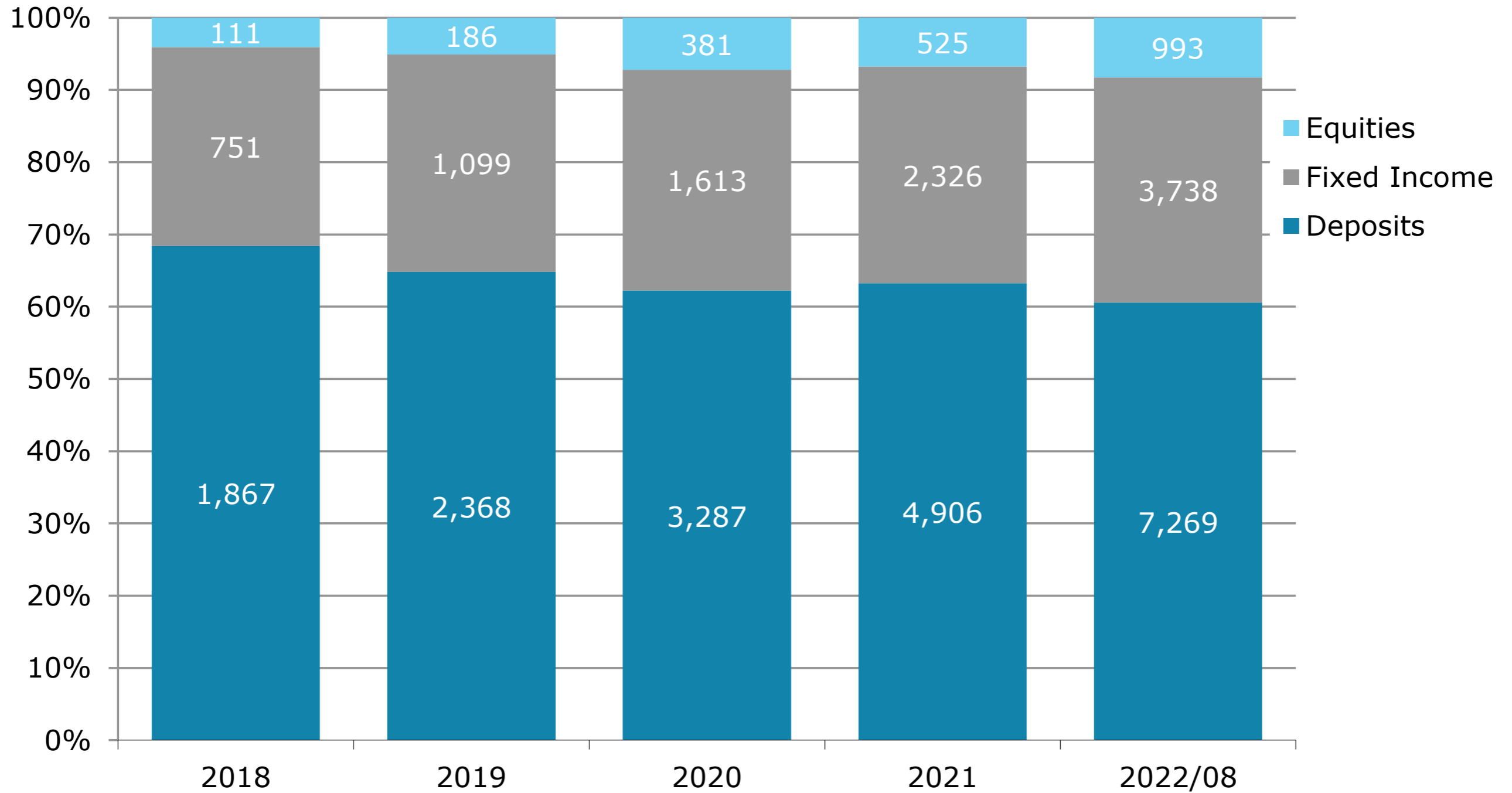
# BREAKDOWN OF TOTAL SAVINGS (BILLION TL)



Source: BRSA, CRA, TCMA estimates

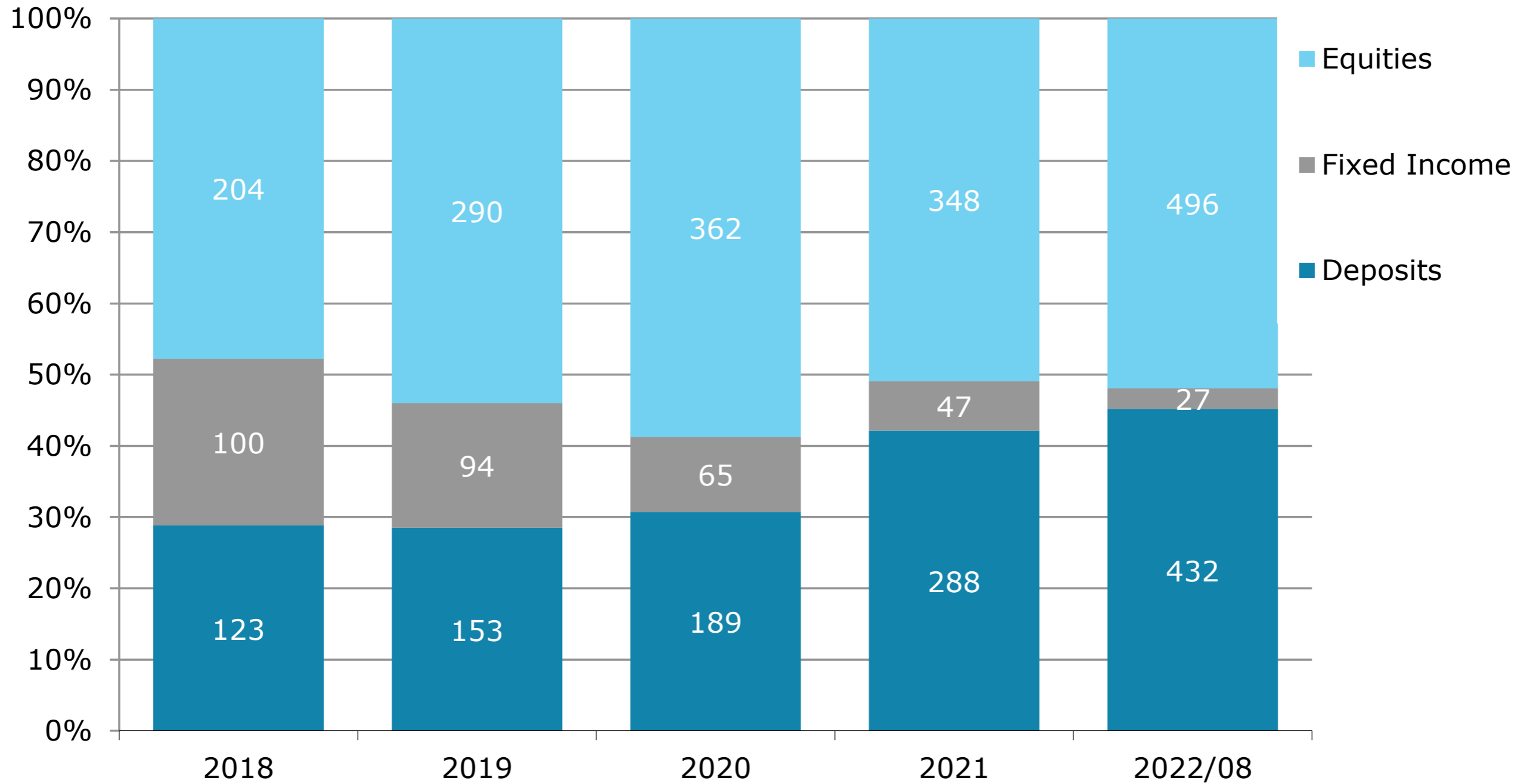


# SAVINGS OF DOMESTIC INVESTORS (% , BILLION TL)



Source: BRSA, CRA, TCMA estimates

# SAVINGS OF FOREIGN INVESTORS (% , BILLION TL)



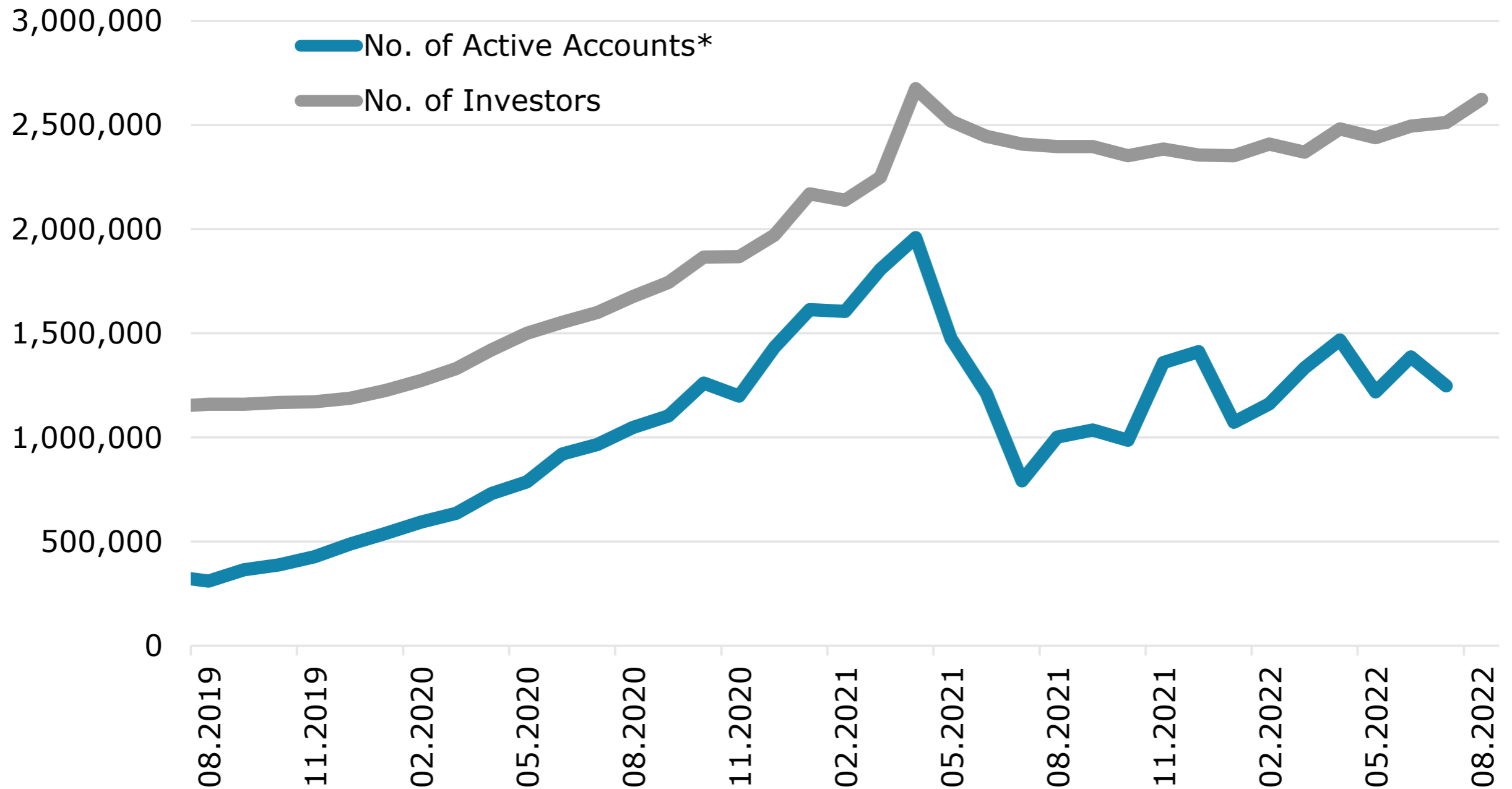
Source: BRSA, CRA, TCMA estimates

## NUMBER OF EQUITY INVESTORS

Number of Equity Investors (thousand)	2018	2019	2020	2021	2022/08
<b>Domestic Investors</b>	<b>1,081.3</b>	<b>1,193.7</b>	<b>1,977.0</b>	<b>2,341.9</b>	<b>2,623.2</b>
Dom. Individuals	1,076.1	1,188.1	1,970.4	2,333.6	2,614.7
Dom. Corporations	4.6	4.9	5.7	7.4	7.4
Dom. Institutionals	0.7	0.7	0.8	0.9	1.1
<b>Foreign Investors</b>	<b>9.6</b>	<b>9.7</b>	<b>12.0</b>	<b>13.1</b>	<b>13.9</b>
For. Individuals	6.2	6.6	9.2	10.7	11.6
For. Corporations	1.5	1.4	1.3	1.2	1.1
For. Institutionals	1.9	1.7	1.5	1.3	1.2
<b>Total</b>	<b>1,090.9</b>	<b>1,203.4</b>	<b>1,988.9</b>	<b>2,355.1</b>	<b>2,637.1</b>

Source: CRA

# NUMBER OF EQUITY INVESTORS



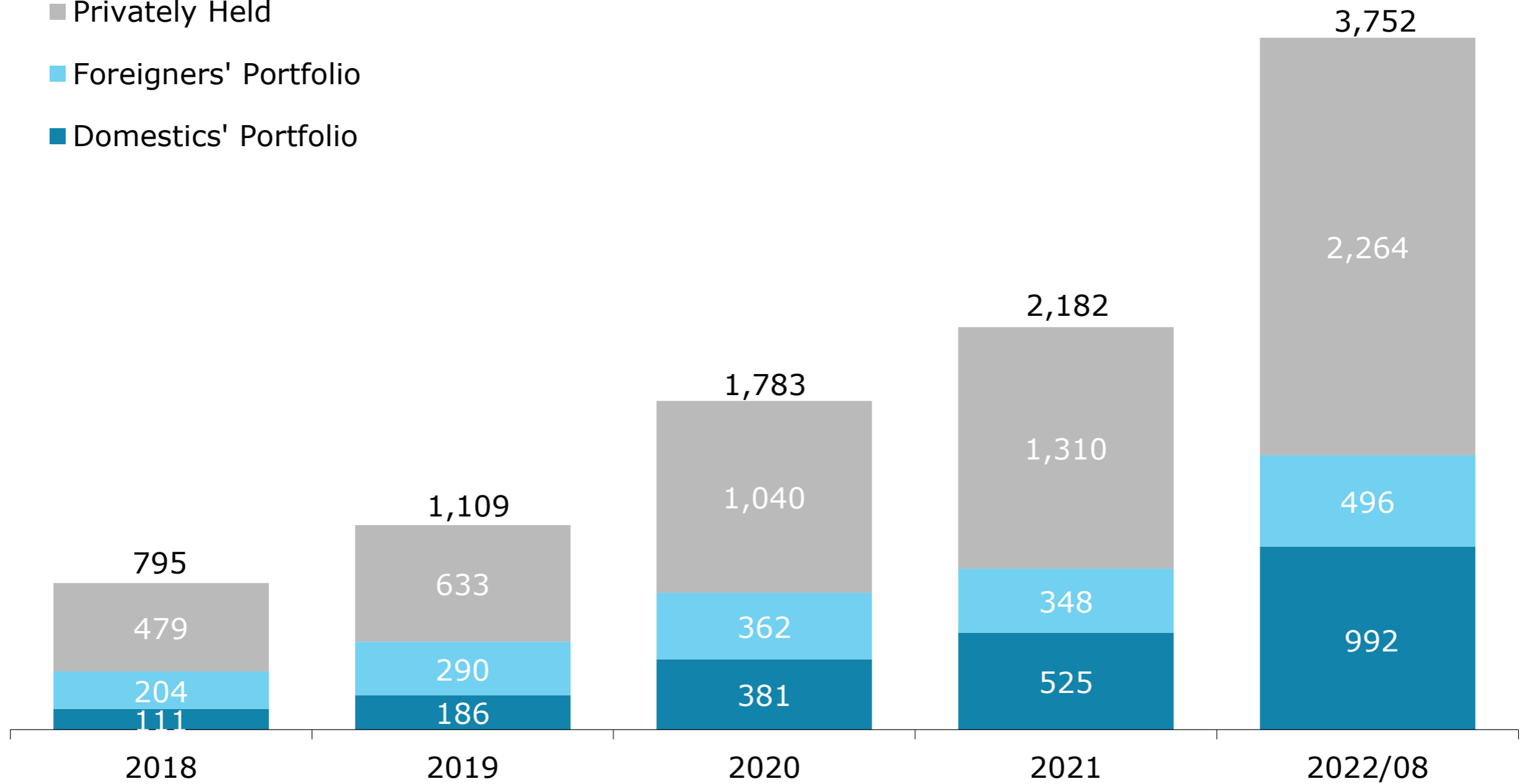
No. of Active Accounts: Accounts with at least one order execution per month

Source: TCMA

\*Different accounts are reported separately.

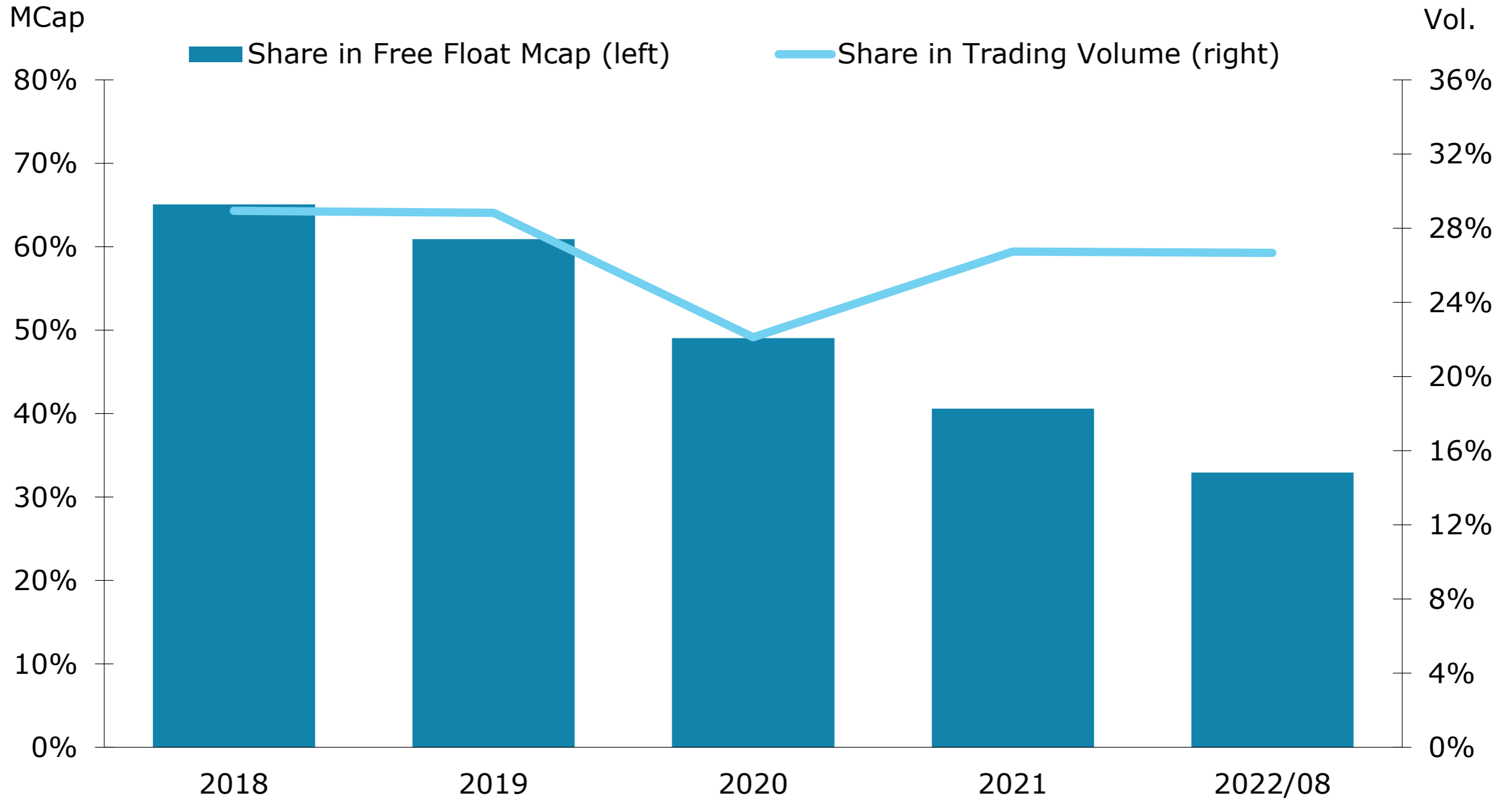
# BREAKDOWN OF MARKET CAPITALIZATION (BILLION TL)

- Privately Held
- Foreigners' Portfolio
- Domestics' Portfolio



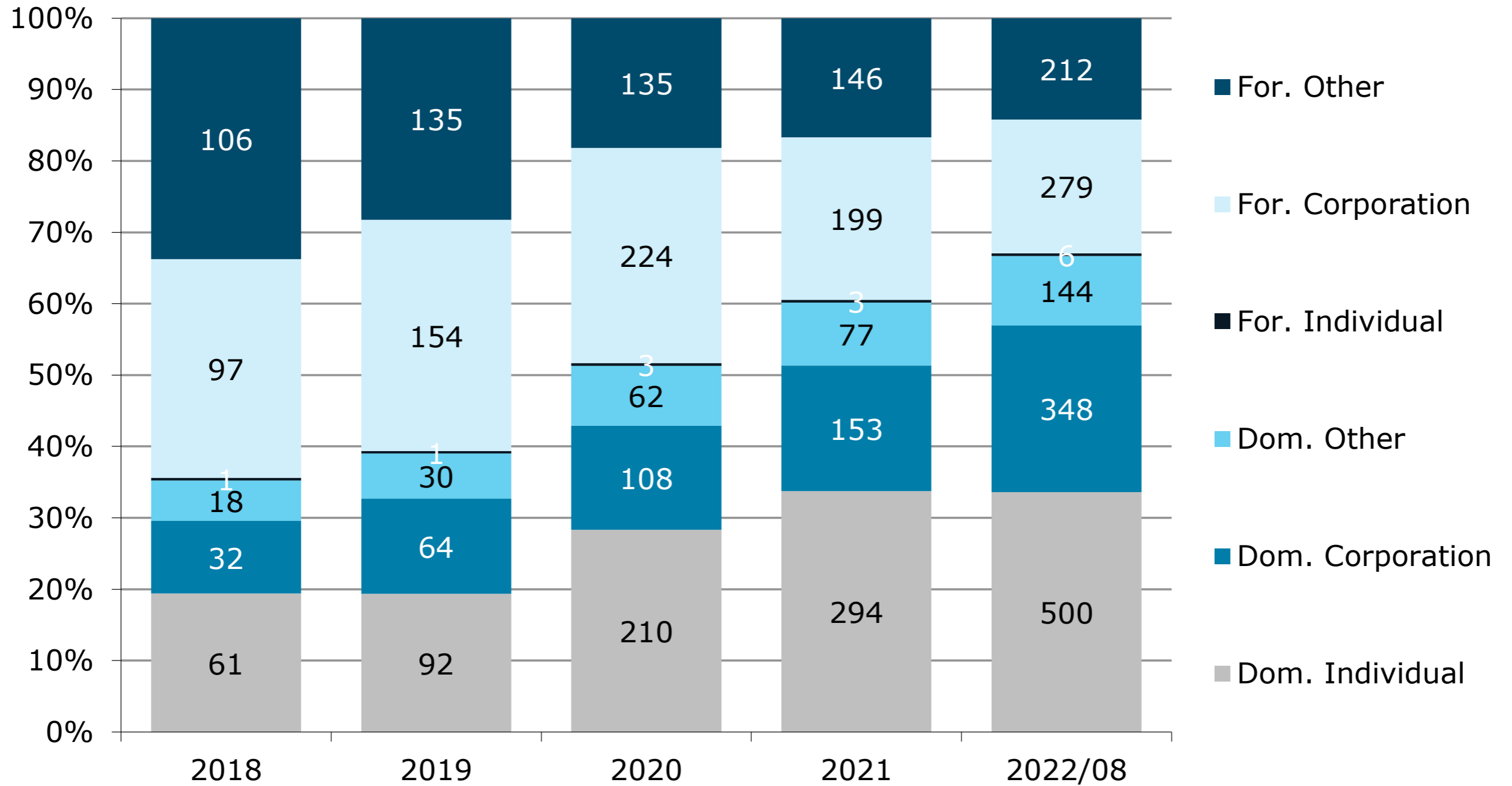
Source: CRA, Borsa Istanbul

# SHARE OF FOREIGN INVESTORS



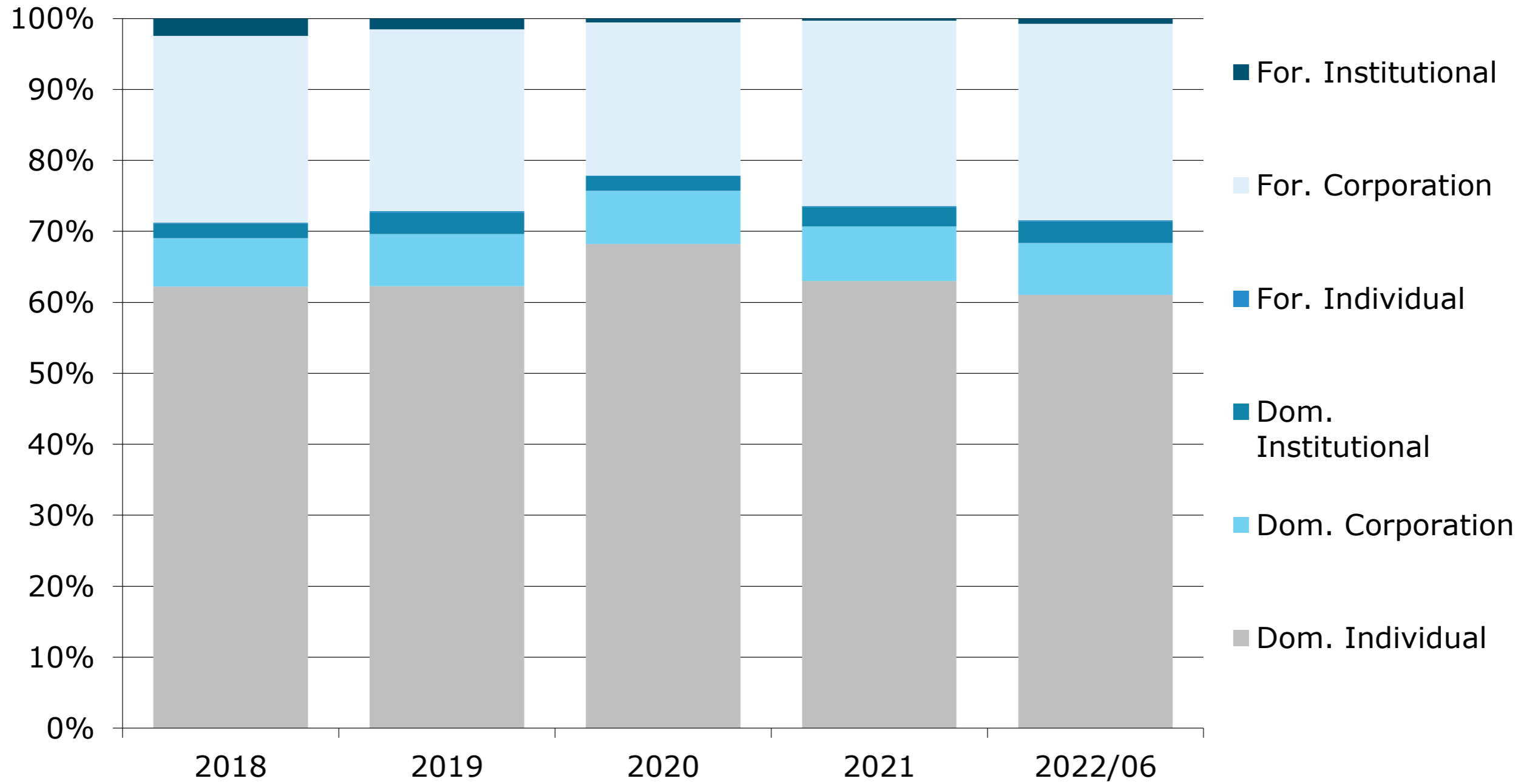
Source: CRA, Borsa Istanbul

# EQUITY OWNERSHIP ACCORDING TO INVESTOR CATEGORIES (% , BILLION TL)



Source: CRA

# EQUITY TRADING VOLUME BY INVESTOR CATEGORIES\*



Source: TCMA

\*Only brokerage houses and investment banks



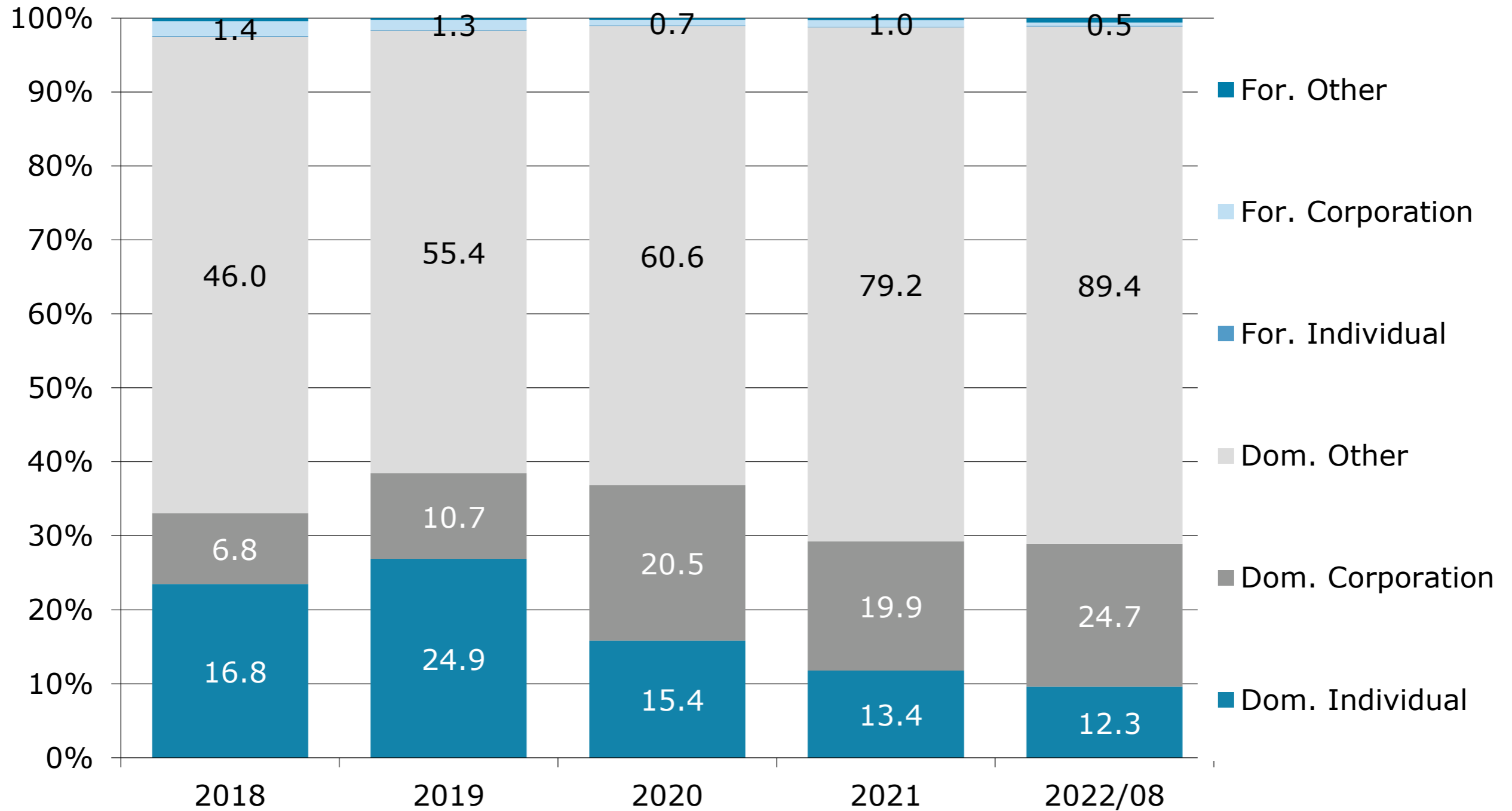
## NUMBER OF CORPORATE BOND INVESTORS

Number of Corporate Bond Investors					
	2018	2019	2020	2021	2022/08
<b>Domestic Investors</b>	<b>77,671</b>	<b>65,998</b>	<b>55,378</b>	<b>46,793</b>	<b>41,014</b>
Dom. Individuals	75,361	64,010	53,450	45,013	39,249
Dom. Corporations	1,660	1,344	1,284	1,163	1,152
Dom. Institutionals	650	644	644	617	613
<b>Foreign Investors</b>	<b>662</b>	<b>453</b>	<b>475</b>	<b>388</b>	<b>309</b>
For. Individuals	641	431	450	365	286
For. Corporations	18	19	20	18	18
For. Institutionals	3	3	5	5	5
<b>Total</b>	<b>78,333</b>	<b>66,451</b>	<b>55,853</b>	<b>47,181</b>	<b>41,323</b>

Source: CRA

Lease certificates excluded.

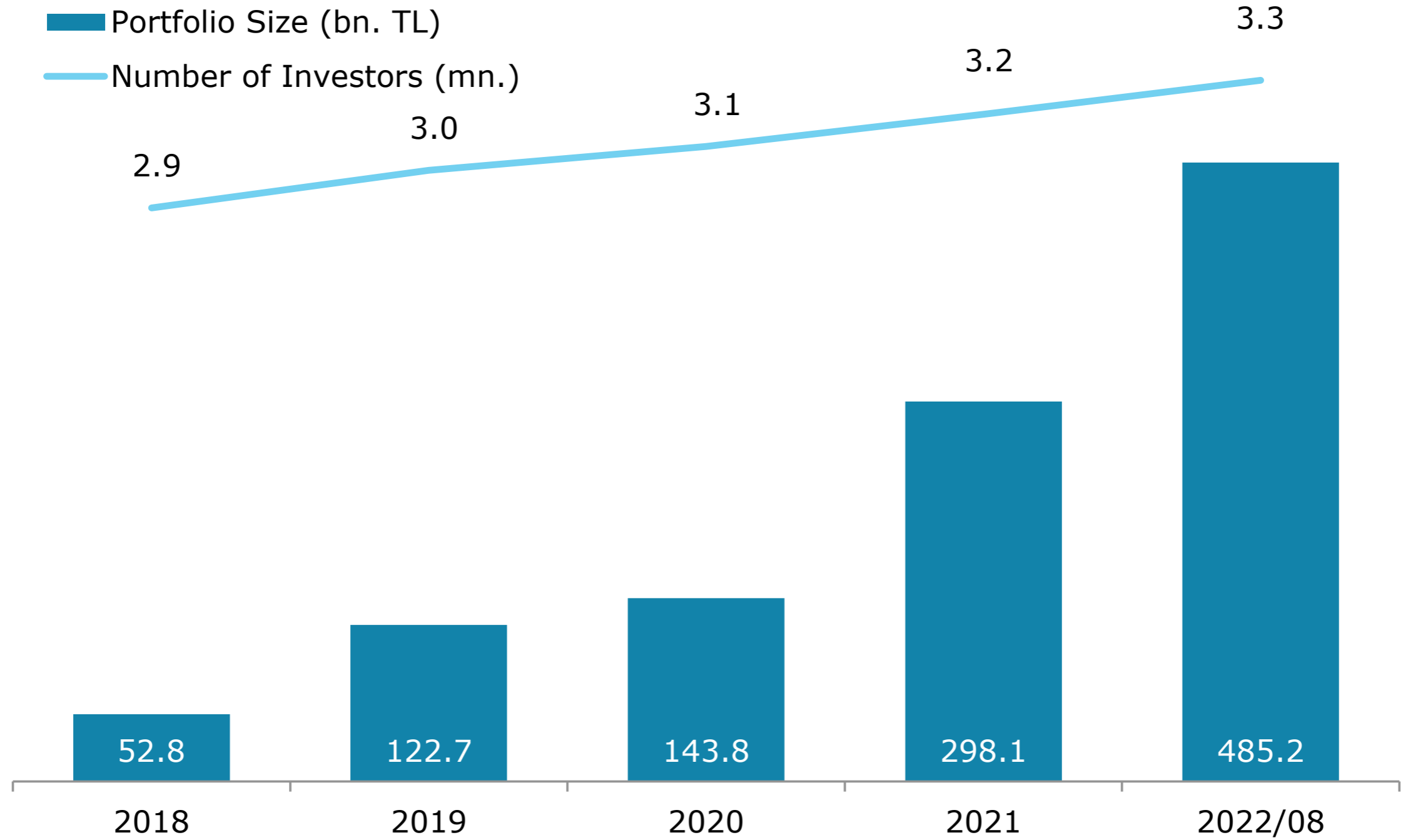
# CORPORATE BOND OWNERSHIP ACCORDING TO INVESTOR CATEGORIES (% , BILLION TL)



Lease certificates excluded.

Source: CRA

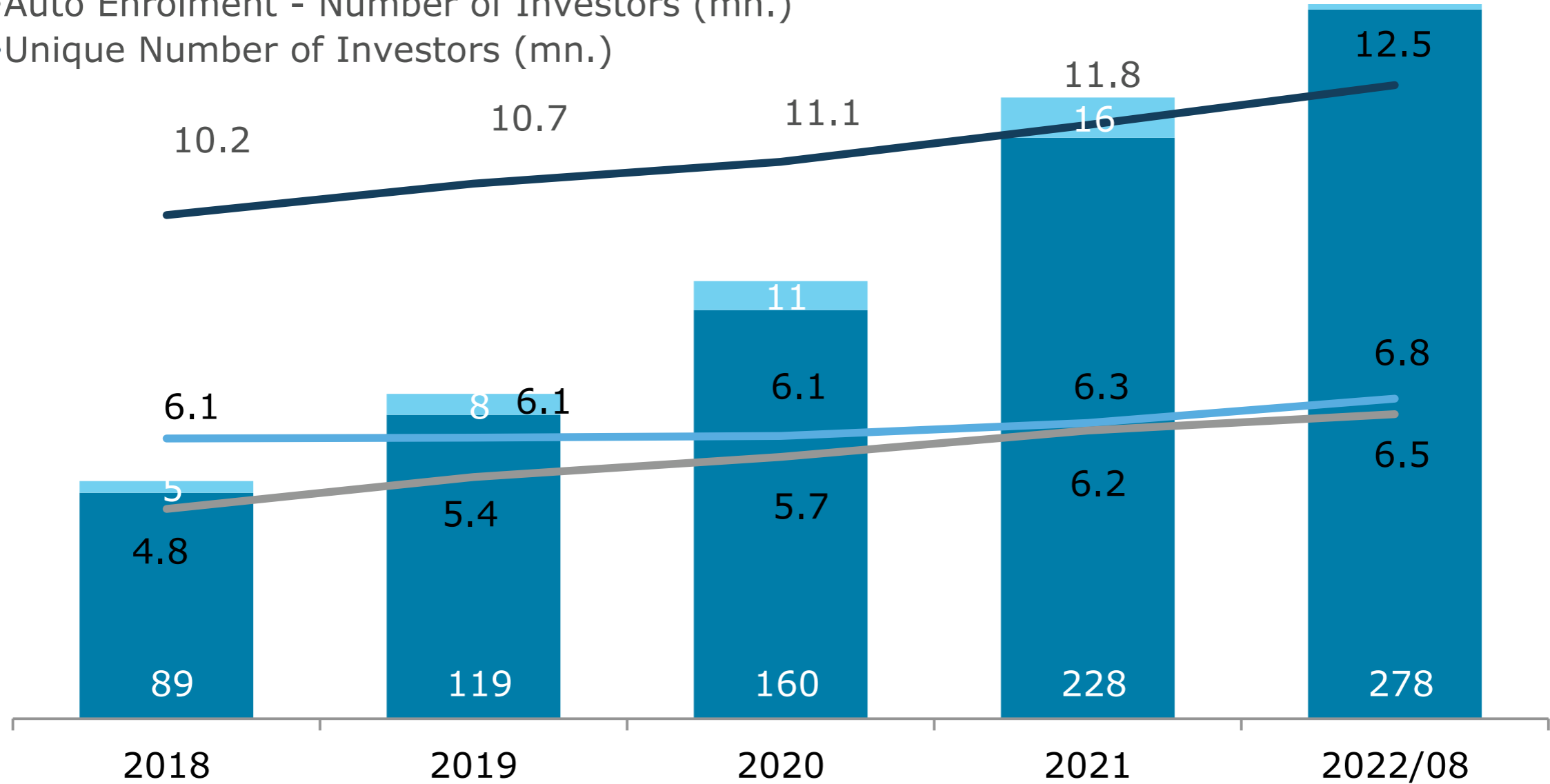
# MUTUAL FUND INVESTORS



Source: CRA

# PENSION FUND INVESTORS

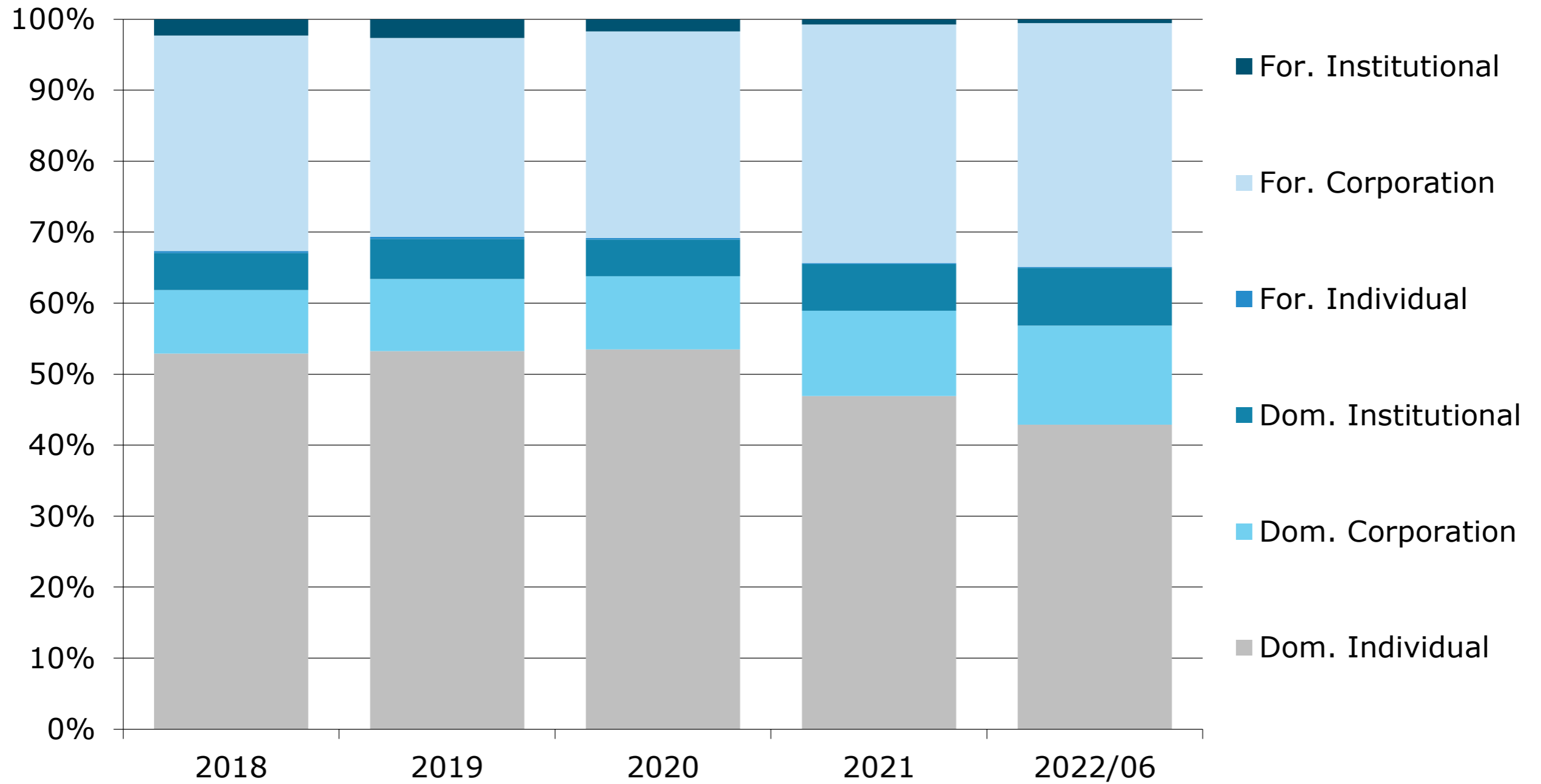
- Auto Enrolment - Portfolio Size (bn. TL)
- Voluntary Enrolment - Portfolio Size (bn. TL)
- Voluntary Enrolment - Number of Investors (mn.)
- Auto Enrolment - Number of Investors (mn.)
- Unique Number of Investors (mn.)



Source: PMC

Portfolio size includes government contributions

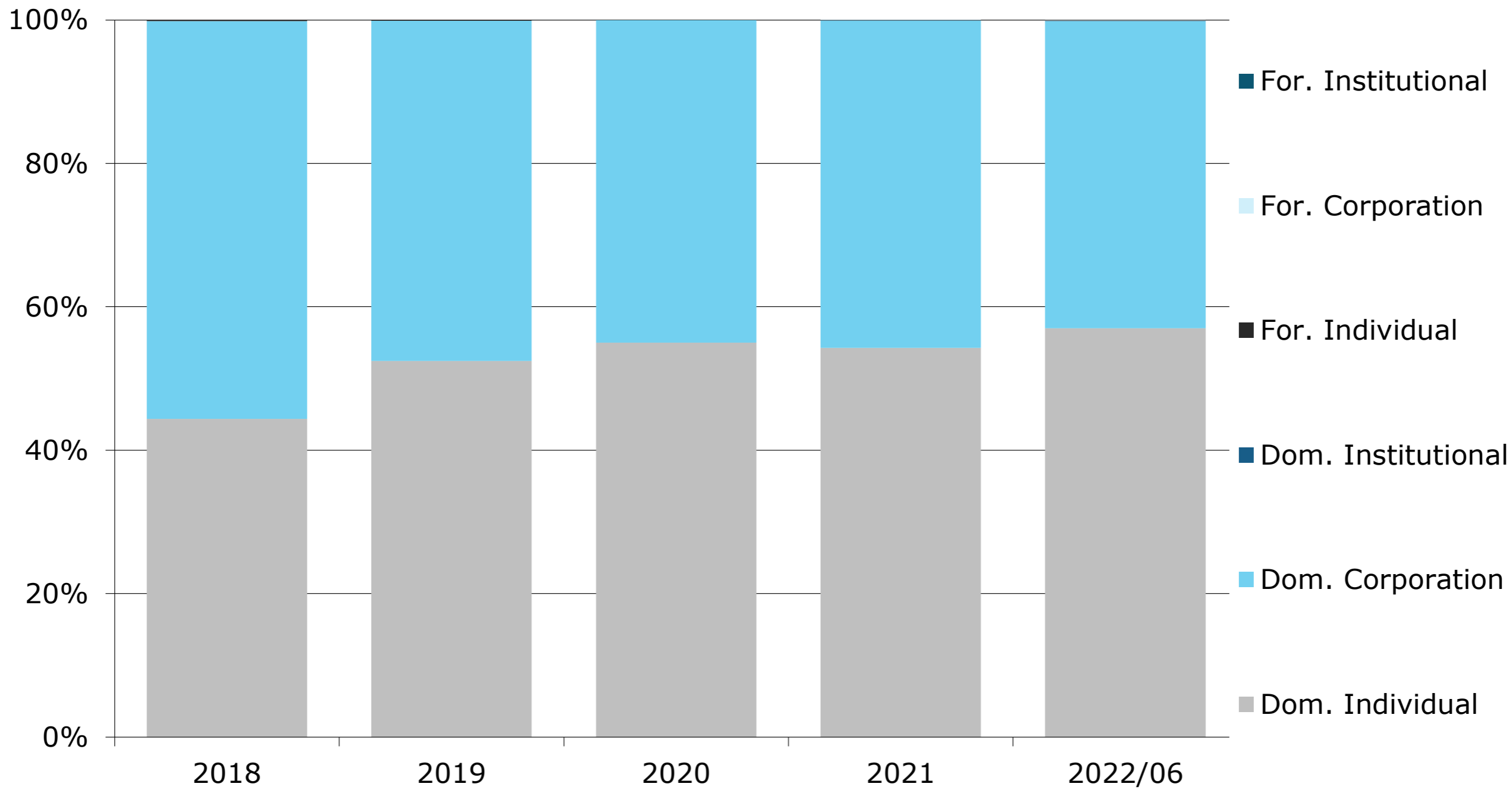
# BREAKDOWN OF FUTURES TRADING VOLUME BY INVESTOR CATEGORIES\*



Source: TCMA

\*Brokerage firms and investment banks only

# BREAKDOWN OF FOREX TRADING VOLUME BY INVESTOR CATEGORIES



Source: TCMA

*[www.tspb.org.tr](http://www.tspb.org.tr)*

*[info@tspb.org.tr](mailto:info@tspb.org.tr)*

  
**TCMA**