

# BEYOND TRADING VOLUMES: UNDERSTANDING ETF LIQUIDITY

*Did you know? An ETF that trades 1 million units a day has the same liquidity as an ETF with the same underlying securities or index that trades zero units a day*

One of the most commonly cited benefits of ETFs is liquidity, with many ETF investors attracted to the ability to buy and sell ETF units at any time throughout the trading day. When it comes to ETFs however, liquidity is also one of the most widely misunderstood concepts.

In the case of shares, investors are able to evaluate liquidity by looking at average daily trading volumes/values and market capitalisation. Due to their familiarity with shares, some investors mistakenly use the same approach to analyse ETFs. Although ETFs trade like shares, one cannot use the same criteria to evaluate ETF liquidity.

## Low trading volume for an ETF does not mean low liquidity

The daily trading volume (or value) of an ETF is not an accurate reflection of the liquidity of the ETF. In order to understand this better, it is helpful to understand the basic structure of ETFs.

In the case of shares, there will always be a fixed number of outstanding shares available for trading. As a result, it is the average daily trading volume of these shares that reflects the trading liquidity available at any time on the exchange.

ETFs, on the other hand, are open-ended funds with the ability to issue or redeem units on a daily basis according to investor demand. All BetaShares ETFs have one or more designated market makers. Their core responsibility is to maintain an inventory of units of the ETF and provide liquidity so investors can buy or sell when they choose to do so. Market makers provide liquidity by quoting bid and ask prices and volumes on the exchange. They seek to ensure there is always a buyer or seller for the investor's trade. Should investor demand exceed what is currently available 'on screen', the market makers can simply 'create' more units (issued by the ETF issuer) to meet the demand (and can also 'redeem' units should supply exceed supply). This enables them to quote higher volumes 'on screen'.

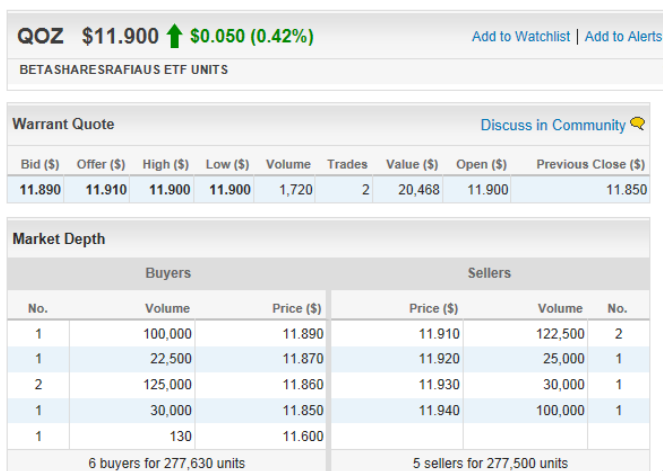
The market makers will attempt to also maintain a tight bid/ask spread so that the price of the ETF closely approximates the net asset value (NAV) per unit throughout the trading day.

## ETFs are as liquid as their underlying holdings

It is the mechanism described above that makes ETFs as liquid as their underlying holdings. So long as sufficient liquidity exists in the underlying holdings there will always be an ability to 'create' more ETF units to supplement existing 'on screen' liquidity. That is why, from a liquidity point of view, trading BetaShares ETFs should be considered as essentially equivalent to trading the underlying holdings. This is also why the average daily volume of an ETF is often a meaningless statistic by which to determine ETF liquidity. Investors would get a better sense of the 'true' ETF liquidity by examining the average daily volume of the ETF's underlying assets.

The below example provides an illustration of this, using the BetaShares FTSE RAFI Australia 200 ETF (ASX: QOZ). At the time the example was created, there was approximately \$3.3m of liquidity 'on screen'. However, the 'true' liquidity of the underlying was actually \$4.3B!

### 'On Screen' liquidity



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Bid (\$)	Offer (\$)	High (\$)	Low (\$)	Volume	Trades	Value (\$)	Open (\$)	Previous Close (\$)
11.890	11.910	11.900	11.900	1,720	2	20,458	11.900	11.850

Market Depth

Buyers			Sellers		
No.	Volume	Price (\$)	Price (\$)	Volume	No.
1	100,000	11.890	11.910	122,500	2
1	22,500	11.870	11.920	25,000	1
2	125,000	11.860	11.930	30,000	1
1	30,000	11.850	11.940	100,000	1
1	130	11.600			

6 buyers for 277,630 units | 5 sellers for 277,500 units

### Underlying liquidity (ADTV 3 months)

AMG AU EQUITY	\$5,505,310	ATZ AU EQUITY	\$3,929,923	LYC AU EQUITY	\$4,210,821
AMP AU EQUITY	\$58,301,110	AWF AU EQUITY	\$3,539,238	MAF AU EQUITY	\$4,689,766
ANL AU EQUITY	\$10,193,770	BOV AU EQUITY	\$14,889,230	ROF AU EQUITY	\$2,937,466
ANZ AU EQUITY	\$193,935,800	BPI AU EQUITY	\$7,415,991	RPA AU EQUITY	\$8,656,895
ASX AU EQUITY	\$23,163,450	BEN AU EQUITY	\$16,690,150	VAH AU EQUITY	\$3,113,479
BBK AU EQUITY	\$21,829,160	BGS AU EQUITY	\$1,478,750	SKN AU EQUITY	\$7,741,424
BBP AU EQUITY	\$285,060,000	ALG AU EQUITY	\$11,644,450	SCV AU EQUITY	\$8,765,673
BOV AU EQUITY	\$14,879,680	BJS AU EQUITY	\$9,536,007	NKS AU EQUITY	\$304,088
BOF AU EQUITY	\$22,629,310	DOF AU EQUITY	\$11,361,770	DDF AU EQUITY	\$15,241,570
BOH AU EQUITY	\$20,416,310	LEW AU EQUITY	\$1,086,306	SEK AU EQUITY	\$20,977,230
CBA AU EQUITY	\$260,062,400	WFC AU EQUITY	\$3,480,533	TPI AU EQUITY	\$2,882,809
CCP AU EQUITY	\$24,866,630	KFP AU EQUITY	\$1,357,191	MOX AU EQUITY	\$3,927,689
CSA AU EQUITY	\$18,525,010	BBW AU EQUITY	\$1,205,167	CHP AU EQUITY	\$1,677,844
CSR AU EQUITY	\$6,721,574	FLT AU EQUITY	\$29,591,250	GHC AU EQUITY	\$2,666,753
CST AU EQUITY	\$6,572,443	GGD AU EQUITY	\$1,750,309	SHF AU EQUITY	\$1,677,844
DBA AU EQUITY	\$24,979,760	IRF AU EQUITY	\$2,196,288	TIS AU EQUITY	\$13,296,720
HVN AU EQUITY	\$9,213,232	HIL AU EQUITY	\$770,488	SXL AU EQUITY	\$3,687,410
ILU AU EQUITY	\$34,199,840	CRH AU EQUITY	\$401,496	CFP AU EQUITY	\$4,506,797
IEA AU EQUITY	\$31,849,850	IRE AU EQUITY	\$3,959,745	CFM AU EQUITY	\$385,460
ILC AU EQUITY	\$20,493,220	KCN AU EQUITY	\$4,315,712	SBW AU EQUITY	\$3,516,518
MGR AU EQUITY	\$26,297,200	MAH AU EQUITY	\$482,520	EQY AU EQUITY	\$5,928,959
MAB AU EQUITY	\$181,726,500	MRB AU EQUITY	\$9,646,594	SRN AU EQUITY	\$5,928,959
NCM AU EQUITY	\$87,311,080	RUB AU EQUITY	\$3,258,588	GOV AU EQUITY	\$2,266,295
FOX AU EQUITY	\$36,542,570	MND AU EQUITY	\$6,646,594	APZ AU EQUITY	\$385,460
OSR AU EQUITY	\$30,104,170	RUB AU EQUITY	\$3,258,588	MOU AU EQUITY	\$804,800
ORI AU EQUITY	\$41,279,380	ARI AU EQUITY	\$12,978,750	ABY AU EQUITY	\$50,844
ORG AU EQUITY	\$46,956,310	PRY AU EQUITY	\$9,239,243	WFE AU EQUITY	\$2,907,378
OSM AU EQUITY	\$15,983,960	RRG AU EQUITY	\$15,971,930	SHL AU EQUITY	\$1,551,847
OSB AU EQUITY	\$92,673,700	RYE AU EQUITY	\$4,996,066	KCK AU EQUITY	\$26,395,960
RMD AU EQUITY	\$26,819,780	ROO AU EQUITY	\$477,220	EXE AU EQUITY	\$54,135,010
RIO AU EQUITY	\$144,947,500	SGF AU EQUITY	\$8,760,581	SKI AU EQUITY	\$9,632,418
RIS AU EQUITY	\$25,219,421	SGX AU EQUITY	\$1,626,216	KAN AU EQUITY	\$5,017,706
SHL AU EQUITY	\$21,000,980	NAP AU EQUITY	\$186,120	GRB AU EQUITY	\$308,043
SGF AU EQUITY	\$42,347,530	NSE AU EQUITY	\$3,590,952	PXU AU EQUITY	\$3,925,006
SUN AU EQUITY	\$54,139,390	UGR AU EQUITY	\$7,827,746	TAX AU EQUITY	\$947,587
VAH AU EQUITY	\$13,837,360	ERA AU EQUITY	\$836,766	BSF AU EQUITY	\$760,050
VES AU EQUITY	\$167,086,400	GNC AU EQUITY	\$12,182,660	WBR AU EQUITY	\$1,651,747
WES AU EQUITY	\$109,407,200	CPA AU EQUITY	\$15,629,910	MIN AU EQUITY	\$11,482,070
SWW AU EQUITY	\$6,205,696	CGF AU EQUITY	\$12,745,810	HIS AU EQUITY	\$2,068,911
BSB AU EQUITY	\$5,219,421	DAU AU EQUITY	\$2,430,745	ALU AU EQUITY	\$22,755,540
ASZ AU EQUITY	\$132,560	SYD AU EQUITY	\$30,209,250	BLV AU EQUITY	\$3,162,178
ANN AU EQUITY	\$10,757,880	PAP AU EQUITY	\$19,956,270	WBR AU EQUITY	\$30,110,650
ICM AU EQUITY	\$42,176,980	CRK AU EQUITY	\$5,398,971	MOQ AU EQUITY	\$66,833,420
IOF AU EQUITY	\$7,870,658	AWC AU EQUITY	\$14,230,920	HNH AU EQUITY	\$8,162,193
JHX AU EQUITY	\$17,517,380	MGR AU EQUITY	\$172,474	OWN AU EQUITY	\$22,823,340
IPP AU EQUITY	\$7,240,627	BBP AU EQUITY	\$1,787,431	EQY AU EQUITY	\$92,405,180
SOV AU EQUITY	\$9,722,836	BBW AU EQUITY	\$4,686,516	DOX AU EQUITY	\$23,417,390
LOT AU EQUITY	\$19,049,730	UXO AU EQUITY	\$618,564	PTN AU EQUITY	\$4,400,925
WBC AU EQUITY	\$201,286,700	WCH AU EQUITY	\$34,820,350		
WPA AU EQUITY	\$79,394,980	WCH AU EQUITY	\$6,894,122		
YEL AU EQUITY	\$4,814,625	LIN AU EQUITY	\$6,420,844		
QPT AU EQUITY	\$26,477,490	COF AU EQUITY	\$109,453		
ICE AU EQUITY	\$43,130,290	PSB AU EQUITY	\$10,790,130		
BSI AU EQUITY	\$21,330,960	WVC AU EQUITY	\$4,265,928		
APN AU EQUITY	\$981,426	HTL AU EQUITY	\$4,833,232		
ARP AU EQUITY	\$1,415,291	BBT AU EQUITY	\$16,255,410		

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Generally then, the primary factor which could affect the liquidity of an ETF is the liquidity of the underlying portfolio of securities/assets held by the ETF. That is to say, if the ETF invests in securities or assets that are difficult to buy or have low supply, then the buying and selling required to implement the creation/redemption process may be more difficult.

All BetaShares ETFs have underlying portfolios that are highly liquid, which contributes to robust liquidity levels and generally ensures that the price of the ETF closely reflects the value of the underlying portfolio.

## Trading ETFs: Real life example of ETF liquidity

ETFs that track liquid asset classes are themselves liquid regardless of trading volume.

Below is a 'real life' example of a market maker assisting in filling a ~\$5m order (traded in several tranches) of BetaShares U.S. Dollar ETF (ASX: USD), that represents ~5x its average daily trading volume with virtually no impact on bid/ask spread.

Time	Size	Price	E	BBK	SBK	Cond	Time	Size	Price	E	BBK	SBK	Cond
15:53:07	675	11.05	T	COMM	VFAP		13:00:18	340	11.05	T	GSAU	COMM	
15:51:49	675	11.05	T	COMM	VFAP		12:53:33	60	11.05	T	COMM	COMM	XT,UN
15:50:53	3200	11.03	T	SUSH	EVAN		12:28:33	529	11.04	T	VFAP	COMM	
15:39:21	750	11.03	T	VFAP	COMM		12:26:51	271	11.05	T	COMM	COMM	XT,UN
15:20:59	2050	11.03	T	SUSH	EVAN		11:45:26	2000	11.04	T	SUSH	VFAP	
15:16:48	2000	11.02	T	VFAP	EVAN		11:45:26	1000	11.04	T	SUSH	VFAP	
14:58:41	1000	11.03	T	ETRD	EVAN		11:45:26	1000	11.03	T	SUSH	VFAP	
14:55:11	56,000K	11.04	T	GSAU	SUSH		11:21:48	520	11.02	T	SUSH	COMM	
14:41:56	500	11.04	T	GSAU	COMM		11:01:59	1000	11.01	T	VFAP	COMM	
13:48:41	1255	11.04	T	GSAU	MACQ		10:57:43	2700	11.04	T	SUSH	VFAP	
13:44:37	5650	11.04	T	GSAU	MACQ		10:57:43	2850	11.04	T	SUSH	VFAP	
13:26:31	500	11.04	T	ETRD	MACQ		10:57:43	7150	11.04	T	SUSH	VFAP	
13:11:38	900	11.05	T	COMM	SUSH		10:54:05	899	11.04	T	VFAP	EVAN	
13:08:40	1790	11.05	T	COMM	SUSH		10:54:05	2101	11.04	T	GSAU	EVAN	
13:02:13	2100	11.03	T	VFAP	RBSM		10:41:16	2000	11.04	T	GSAU	AIEL	
13:01:54	50,000K	11.05	T	GSAU	SUSH		10:40:56	99,30K	11.05	T	GSAU	SUSH	
13:01:04	100,00K	11.05	T	GSAU	SUSH		10:40:56	702	11.05	T	GSAU	COMM	
13:00:28	29,16K	11.05	T	GSAU	SUSH		10:39:59	905	11.04	T	GSAU	THRD	
13:00:18	100,00K	11.05	T	GSAU	SUSH		10:34:05	2151	11.04	T	SUSH	COMM	
13:00:18	500	11.05	T	GSAU	VFAP		10:31:28	2750	11.04	T	COMM	COMM	XT,UN

Source: Bloomberg as of 8 January 2013. Past performance is not an indicator of future performance.

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BetaShares is a specialist provider of fund products that are traded on the Australian Securities Exchange. Our objective is to expand the universe of investment possibilities for investors in Australia.

BetaShares is part of the Mirae Asset Global Investment Group, one of the largest asset managers in Asia. Currently, Mirae manages in excess of US\$60B, including over US\$8B in ETFs.

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