

The Australian Exchange-traded Funds Market

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Assets under management in the Australian exchange-traded funds (ETF) market have more than tripled over the past four years to around \$25 billion. ETFs enable investors to gain exposure to a wide range of assets at relatively low cost. Australian ETFs have generally replicated their investment benchmarks closely and deviations have tended to be small and temporary. However, there are some potential risks associated with investing in ETFs.

Introduction

The Australian ETF market has increased rapidly in recent years to around \$25 billion, alongside strong growth in international ETF markets. Globally, assets under management (AUM) for exchange-traded products increased by over 80 per cent over the past four years and totalled around \$5 trillion at the end of 2016, with the United States accounting for over 70 per cent of global AUM.¹

In light of this rapid growth, this article looks at developments in the Australian ETF market. It covers the different types of ETFs listed on the Australian Securities Exchange (ASX), which types of ETFs have experienced the strongest growth and who invests in ETFs. It also examines how ETFs perform relative to their benchmarks, and concludes with a brief review of some of the risks that ETFs present and how these are managed.

What Is an ETF?

ETFs are investment funds that are traded on an exchange and typically track a specified benchmark

index.² Most commonly these benchmark indices are equity indices, while fixed-income, currency and commodity indices account for a smaller share of ETFs' AUM. ETFs enable investors to gain exposure to a diversified range of assets at relatively low cost. Furthermore, they also enable retail investors to invest in asset classes that in the past were generally only accessible to wholesale or institutional investors (for example, fixed-income products and emerging market equities).

Units in an ETF are created by an entity known as an 'ETF issuer'. Among other responsibilities, ETF issuers create ETF units by issuing them in exchange for the underlying basket of assets (usually equity securities). However, the ETF issuer can only transact with an entity called an 'authorised participant' (AP), who is authorised by the ASX and has an agreement with the ETF issuer.

Another important class of participant in this market is the 'market makers'. In Australia, ETFs are required to have one primary market maker. These market makers are obliged to show quotes for buying and selling units that fall within a narrow range around the value of the ETF's underlying basket of assets, or net asset value (NAV).

* This article was written when the author was in Domestic Markets Department.

1 Australian ETF figures used here exclude exchange-traded *managed* funds, which account for around \$2 billion in AUM; however, the global total figures include a broader range of exchange-traded securities such as exchange-traded managed funds.

2 For further detail on the mechanics of ETFs, see Kosev and Williams (2011).

The ASX offers a market-making incentive scheme for other market-making participants to maintain prices and liquidity. Market makers receive incentives (equivalent to trading fees) when benchmarks for the quoted price and minimum trading volumes are achieved. Market makers, therefore, play a key role in keeping the ETF's price closely aligned to its NAV.

The creation (or redemption) of ETF units is usually initiated by market makers based on the size of their inventory of ETF units. If the market maker's inventory is low, as one possible response they can instruct the AP to create additional units. To create ETF units, the AP will transfer the basket of assets underlying the ETF to the ETF issuer, although the equivalent cash amount can also be transferred in some cases. The ETF issuer then creates the ETF units, which the market maker will acquire via the AP. Redemptions of ETF units follow the opposite process, again initiated by the market maker.

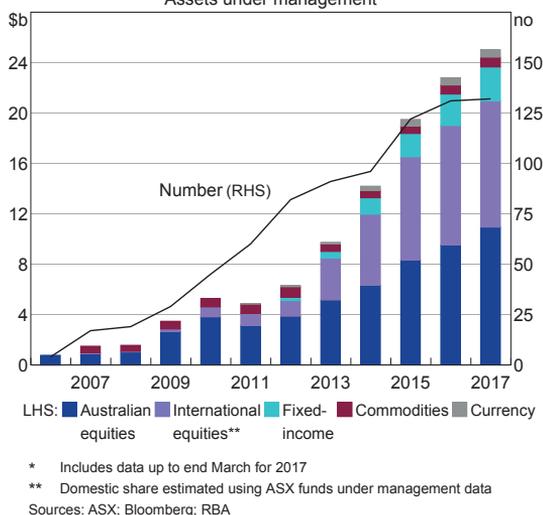
Market makers wish to avoid maintaining inventories that are too low. If inventories are too low, then the market maker may need to frequently approach an AP to create more units, incurring a fixed cost each time, or adopt other expensive strategies. On the other hand, maintaining ETF inventories that are too high generates market risk and/or hedging costs for the market maker.

If the market is functioning well there would be limited opportunity for arbitrage for the market makers. Arbitrage could occur, for example, if there were demand for an ETF at a price above its NAV. In that case, a market maker or AP could create units and offer them on the market at that higher price, and pocket the difference. However, other market makers could also come in and arbitrage that difference away. Industry liaison suggests that these opportunities are limited in the Australian market, and that the incentives faced by market makers keep prices closely aligned.

The Structure of the ETF Market in Australia

Australian ETF assets under management have more than tripled since 2012, to be around \$25 billion at the end of March 2017 (Graph 1). There has been a corresponding increase in the number of ETFs, with 132 ETFs listed on the ASX. However, the ETF market in Australia is still relatively small compared with other major markets. In Australia, ETFs account for around 1½ per cent of the local stock market capitalisation compared with about 5 per cent in Canada and Europe, and around 10 per cent in the United States. The Australian ETF market is also more concentrated in equity ETFs than other developed economy markets, with fixed-income ETFs accounting for a relatively small share.

Graph 1
Australian Listed ETFs*
 Assets under management



ETF turnover in Australia has recently averaged around \$60 million per day, equivalent to about 1 per cent of total ASX turnover. However, ETF trading activity can be volatile, peaking at up to 4 per cent of ASX turnover on days when there are sizeable creations and redemptions of existing ETFs or new ETF listings; notwithstanding the higher trading activity, creations or redemptions

usually have little or no impact on the ETF price and its underlying securities. Turnover can also vary by the type of ETF: the majority of large equity ETFs trade daily, while some of the smaller funds trade less frequently. In comparison, ETF turnover in the US totals around \$100 billion per day and accounts for around one-third of all trading in US stocks. The most heavily traded ETF in the US is State Street's S&P 500 ETF, which has an average daily trading value of around \$20 billion.

ETFs listed on the ASX fall into six broad categories (Table 1):

- *Domestic equity ETFs* account for the largest share of the ETF market, at 44 per cent, or \$11 billion. Most domestic equity ETFs track a broad-based index, such as the ASX 200 or ASX 50, with the remainder split between sector-focused (resources, financials and property) and strategy ETFs. Traditionally,
- *ETFs tracked indices weighted by market capitalisation* but there has been a rise in strategy or 'smart beta' funds, which use different weighting techniques (rather than market capitalisation weighted indices).
- *International equity ETFs* represent the second largest share of AUM, at almost 40 per cent or \$10 billion.³ Within this sector, ETFs tracking global equities and US equities account for two-thirds of AUM, with ETFs tracking European, Asian, emerging markets, specific market sectors and strategy benchmarks accounting for the remaining third.
- *Domestic fixed-income and cash ETFs* are quite new, with the first fund listed on the ASX in 2012. This sector now has 12 funds and accounts for around 11 per cent of total AUM. The Australian High Interest Cash ETF accounts for over 40 per cent of total AUM within this

Table 1: Australian Listed ETFs
end March 2017

	Number	AUM (\$b)	Share of total ETF AUM (%)
Domestic equity	37	10.9	44
– Broad based	15	7.6	31
– Strategy	12	1.7	7
– Sector	10	1.6	7
International equities	62	9.8	39
– Global indices	12	3.2	13
– US	11	3.6	15
– Asia, Europe, Emerging Markets	21	1.8	7
– Sector and strategy	18	1.1	4
Domestic fixed-income and cash	12	2.7	11
Global fixed-income	5	0.2	1
Commodity	11	0.8	3
Currency	5	0.6	2
Total	132	25.0	

Sources: ASX; Bloomberg

³ Around half of international equity ETFs have their primary listing in the United States; for these ETFs, only domestic funds under management are included here, as reported by the ASX. International equity ETFs can be traded during normal ASX trading hours, despite some of the markets that they track being closed.

sector and government-issued bond ETFs account for about 15 per cent. Fixed-income indices generally follow some criteria, such as particular maturities, credit quality or issuer type (such as government or corporate). When bonds in the portfolio mature or are sold, the proceeds are reinvested.

- *Global fixed-income ETFs* were first listed on the ASX in December 2015, and now account for around 1 per cent of total AUM. These cover high-yield developed market bonds, global corporate bonds, emerging market bonds and government-issued bonds.
- *Commodity ETFs* represent around 3 per cent of total AUM, with the majority of funds invested in four physical gold ETFs. There are also three commodity ETFs that are synthetic ETFs, which use derivatives to replicate the return of a particular commodity, and represent less than 10 per cent of AUM within this sector. Although globally synthetic ETFs account for a larger share of the ETF market, in Australia synthetic ETFs are limited to these three commodity ETFs (and account for less than 1 per cent of total AUM).
- *Currency ETFs* account for around 2 per cent of total AUM. Almost all AUM are held in one US dollar ETF, with euro, pound and renminbi ETFs accounting for the remainder.

ETF Investors

The ETF market in Australia is dominated by investors who have invested through a financial advisor/broker and by self-managed superannuation funds. The composition of investors in Australia differs from the United States, Canada and Europe, where institutional investors account for a larger share of investors while retail investors account for a smaller share. These compositional differences are partly a result of ETFs in North America and Europe being originally

targeted to institutional investors, while ETFs have had more of a retail focus in the Australian market (Vanguard 2016). There are several key aspects of ETFs that make them attractive to investors, particularly retail investors. They provide:

- low management fees
- a cost-effective means of diversifying portfolios using a single product
- access for retail investors to markets that have traditionally only been available to institutional investors
- the ability to trade throughout the day
- transparency of the fund's holdings, as they are generally published daily.

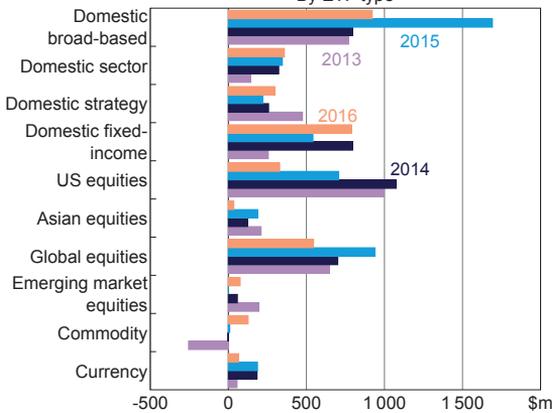
Asset allocation also differs by the type of investor: SMSFs tend to hold more domestic equity ETFs, whereas direct investors tend to hold a greater share of international equities. Meanwhile, institutional investors are more exposed to fixed-income ETFs.

Change in ETF Assets under Management

The total value of ETF assets under management in Australia has increased by around \$4 billion per year on average since 2013; however, the increase in AUM was slightly lower in 2016. Over 2017 to date, AUM have continued to increase at a solid pace.

Domestic broad-based and global equity ETFs have generally seen the largest dollar increase in AUM in recent years, with domestic broad-based ETF AUM increasing by almost \$1.7 billion in 2015 and \$1 billion in 2016 (Graph 2). Fixed-income ETFs have experienced the strongest percentage growth in AUM of all ETFs since 2014, increasing by around 40 per cent on average. Demand for these assets may have been supported by periods of higher volatility and risk aversion. The change in AUM for other ETFs tends to be more closely related to their relative returns.

Graph 2
Change in Assets Under Management
By ETF type



Sources: ASX; Bloomberg; RBA

ETF Tracking Accuracy

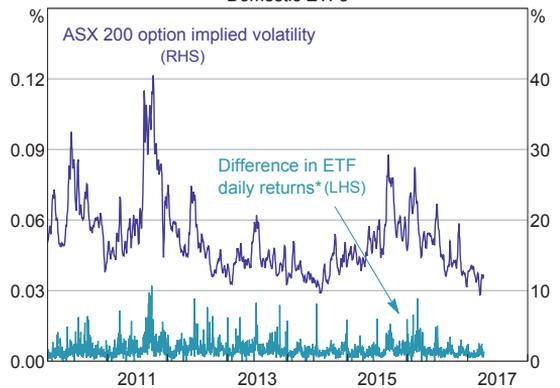
An ETF's performance can be evaluated by the difference between the ETF's returns and the returns on the benchmark that it is tracking, such as the ASX 200 index, FTSE Australia High Dividend Yield index, or Bloomberg AusBond Composite 0+ Yr Index. Over the past year, domestic ETFs underperformed their benchmark by around ½ percentage point on the basis of the *annual* total return. Most of the underperformance can be attributed to fund management fees but there are a number of other factors that can also cause a divergence, such as transaction costs and index licensing costs (for example, funds that track the S&P/ASX 200 have to pay a licence fee to S&P). In addition, the ETF might only hold a representative sample of the index due to costs or difficulties associated with holding some securities (however, this is likely to be more of an issue for some international equity ETFs). Therefore, even if the price of an ETF is closely aligned to its NAV, it could diverge from the value of the benchmark.

Domestic ETFs replicated their benchmarks well on the basis of *daily* returns. The difference in

total daily returns tends to vary by the size and type of the ETF: domestic broad-based ETFs tend to record the smallest differences, while strategy ETFs recorded larger differences. Larger divergences between the total daily return of domestic ETFs and their benchmarks often corresponded with heightened market volatility (Graph 3). However, in most cases, any sizeable divergences were generally unwound the following day with a similar sized movement in the opposite direction.

Some of the daily return difference can be attributed to timing differences. In particular, some ETFs are lightly traded, so a significant amount of time can elapse between the last ETF trade of the day and the end of the day, when the benchmark returns are calculated. The market can move in that elapsed time. Industry liaison suggests this issue is significant for some funds.

Graph 3
Difference in Daily Returns
Domestic ETFs



* Median absolute daily total return difference between the ETF and its benchmark

Sources: ASX; Bloomberg; RBA

Risks

Alongside the strong growth in the ETF market, a number of concerns and potential risks have been raised by market participants and regulators. These concerns have generally focused on: liquidity risk; counterparty and

collateral risks that are typically associated with synthetic ETFs; as well as the complexity of alternative ETF structures.

- Liquidity in the ETF market could decrease in times of market stress, particularly if market makers and/or APs withdrew from the market.
- Synthetic ETFs rely on a counterparty paying the return of the ETF without holding the benchmark, so there is some risk that the counterparty could default or not be able to pay the return (if they have not sufficiently replicated the return of the benchmark).
- As the ETF market continues to expand, there has been a rise in the number of ETFs with more complex structures, such as leveraged and inverse ETFs, as well as ETFs that use more obscure benchmarks.⁴ Some investors may not fully appreciate the risks of investing in these instruments.

There are some features of the Australian market which help to moderate these risks. For example, the ASX offers an incentive scheme to market makers to maintain liquidity, and the majority of Australian ETFs track traditional benchmarks.

Also, synthetic ETFs, which may be more prone to these risks, have been subject to close scrutiny by regulators. In 2011, the Financial Stability Board (FSB) and the Bank for International Settlements (BIS), raised concerns about ETFs, especially regarding their complexity and transparency (FSB 2011; Ramaswamy 2011). With these concerns in mind the ASX, based on discussions with the Australian Securities and Investments Commission (ASIC), introduced more stringent admission requirements for ETFs than found in other jurisdictions (ASIC 2012). Examples of the

regulations that apply in Australia are restrictions on counterparties to either an Australian deposit taking institution and various collateral restrictions. Synthetic ETFs represent a very small share of ETFs listed on the ASX.

Looking forward, the risks associated with ETFs may increase, especially as the market continues to expand into more novel instruments. ✖

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⁴ A leveraged ETF uses debt and/or derivatives to create a fund that has a higher volatility than the benchmark, but is correlated with it. An inverse ETF uses derivatives that deliver returns that go in the opposite direction of the benchmark.