The Role and Activities of Authorized Participants of Exchange-Traded Funds

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In response to several inquiries about authorized participants (APs), ICI recently conducted a brief survey of its members that sponsor exchange-traded funds (ETFs).[1] The following report briefly describes the role of an AP and summarizes the results of the survey.

What Is an AP?

An AP is typically a large financial institution that enters into a legal contract with an ETF distributor to create and redeem shares of the fund.[2] APs play a key role in the primary market for ETF shares because they are the only investors allowed to interact directly with the fund. APs do not receive compensation from an ETF or its sponsor and have no legal obligation to create or redeem the ETF's shares. APs typically derive their compensation from acting as dealers in ETF shares and they create and redeem shares in the primary market when doing so is a more effective way of managing their firms' aggregate exposure than trading in the secondary market. Some APs are clearing brokers (rather than dealers) and receive payment for processing creations and redemptions as an agent for a wide array of market participants such as registered investment advisers and various liquidity providers,[3] including market makers, hedge funds, and proprietary trading firms.

1 Fifteen sponsors that collectively offered two-thirds of the number of ETFs available to investors and represented about 90 percent of the industry's total net assets as of November 2014 responded to the survey. See Figure 7 on page 13 for characteristics of the survey sample.

2 In addition, APs are U.S.-registered self-clearing broker-dealers that can process all required trade submission, clearance, and settlement transactions on their own account, as well as full participating members of the National Securities Clearing Corporation and the Depository Trust Company.

3 For a description of the various types of entities that provide liquidity to ETFs in the secondary market, see "Meet the Market Makers: Your Guide to the ETF Trading Ecosystem," *BlackRock Blog*, September 11, 2012. Available at www.blackrockblog.com/2012/09/11/meet-the-market-makers-your-guide-to-the-etf-trading-ecosystem.

Generally, AP contracts are structured as one overarching agreement that authorizes an entity to create and redeem shares in any of the ETFs the fund sponsor offers. Sponsors, however, also may choose to structure the agreements by series or trust (e.g., all of a sponsor's equity ETFs are in one trust and all of its bond ETFs are in another trust—each trust has its own AP agreement) or for a specific ETF (e.g., there are restrictions on holding or transacting in the underlying securities and only certain entities would qualify). Some entities may enter into an AP agreement with a fund distributor without knowing if they will initially be regular active participants.

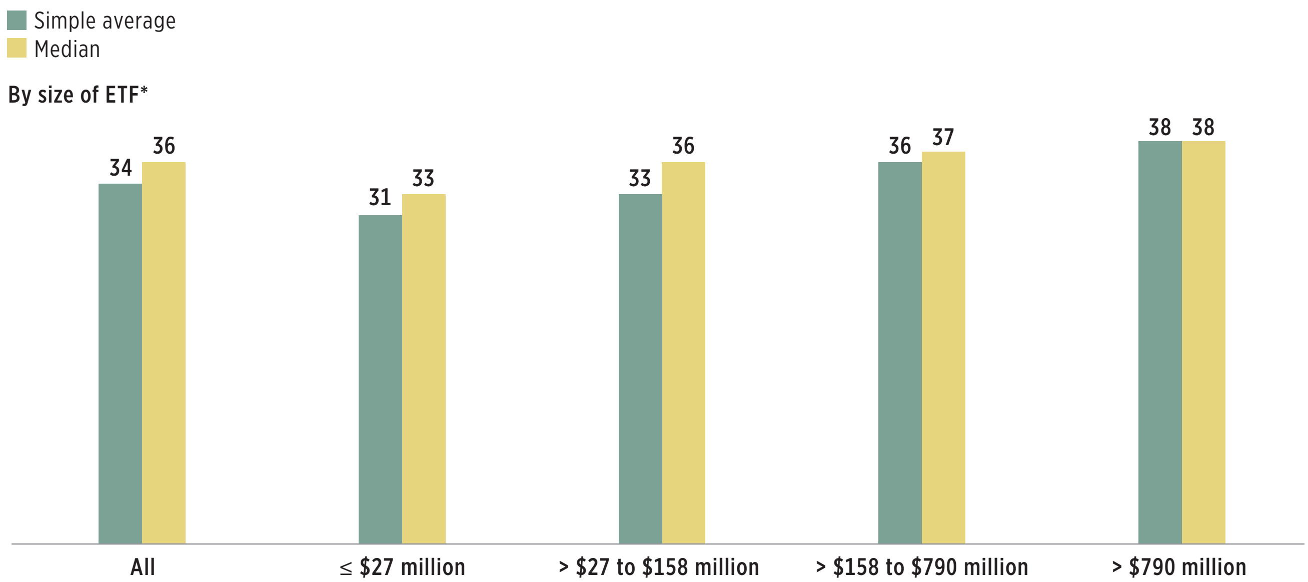
How Many APs Are There?

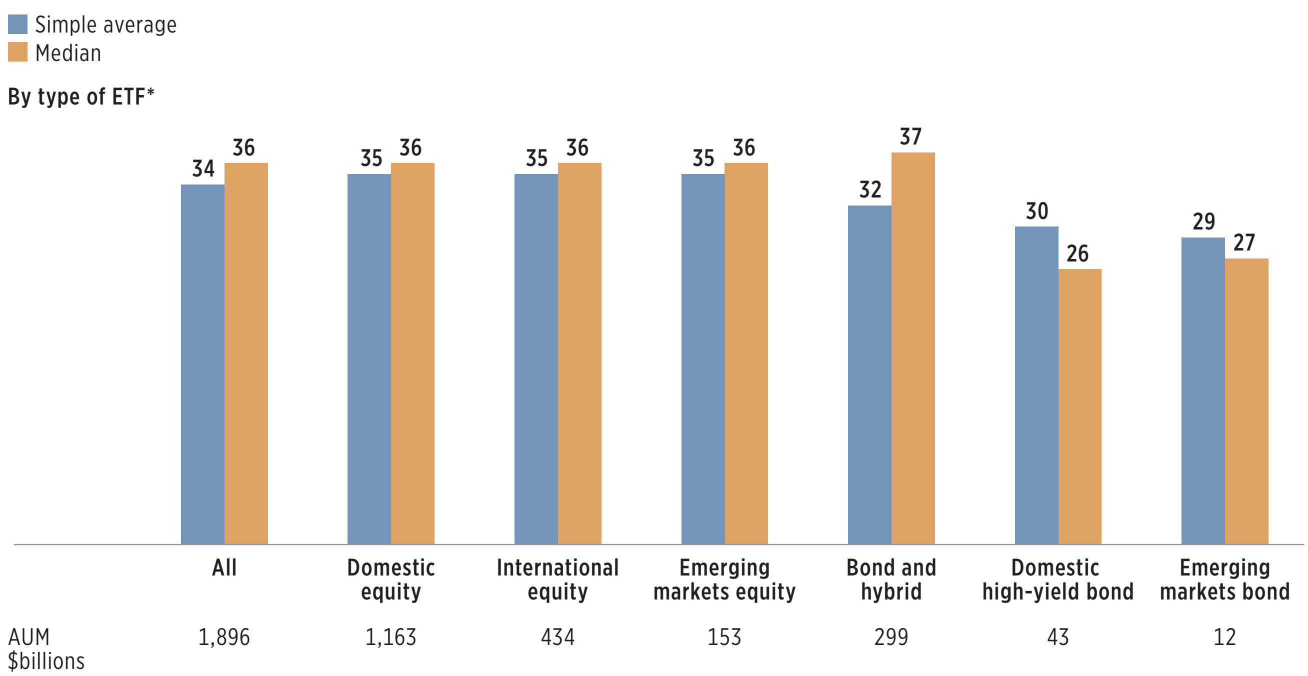
- **On average, each ETF in the sample has 34 AP agreements and half have at least 36** (Figure 1).[4]
- **ETFs with more assets under management have more AP agreements in place than ETFs with fewer assets under management** (Figure 1, top panel). The ETF industry is expanding rapidly, with new sponsors entering each year. As of year-end 2014, there were 52 sponsors that offered ETFs, up from 29 sponsors only five years earlier. More recent entrants, which generally have ETFs with smaller assets under management, tend to have fewer AP agreements than longer established sponsors with larger ETFs in their product lineup.
- **Domestic, international, and emerging markets equity ETFs have 35 AP agreements, on average, and half of these ETFs have 36 or more** (Figure 1, bottom panel).
- **Bond and hybrid ETFs have, on average, 32 AP agreements, and half of these ETFs have 37 or more**. The average number of AP agreements for bond and hybrid ETFs is lower than the number for equity ETFs because some newer ETF sponsors have more presence in the bond and hybrid space than in the equity space and (as previously noted) these sponsors tend to have smaller ETFs.

[4] These figures represent estimates of the number of independent entities that are APs. The estimates are lower than the actual number of AP agreements an ETF distributor has on file. Respondents were instructed to consolidate the number of affiliated entities that are APs to one parent-level AP. For example, if a sponsor had three separate AP agreements with affiliates or subsidiaries of one larger firm, this was reduced to one AP agreement. The reasoning behind this consolidation was that if the larger parent organization came under financial stress, this could potentially affect the activities of its subsidiaries and affiliates.

FIGURE 1

Number of APs





* Excludes commodity ETFs.

How Many APs Are Actively Creating and Redeeming ETF Shares?[5]

- **ETFs with more assets under management have more APs that are active than ETFs with fewer assets under management** (Figure 2, top panel). ETFs with more than $790 million in assets have an average of nine active APs and half of these ETFs have seven or more active APs. ETFs with less than $27 million have an average of two active APs. This result is unsurprising, as larger ETFs tend to have more creation and redemption activity.
- **ETFs with domestic underlying securities have more APs that are active than ETFs with foreign underlying securities** (Figure 2, bottom panel). Domestic equity ETFs have an average of seven active APs and half have at least five. Domestic high-yield bond ETFs have an average and a median of five active APs and ETFs that invest primarily in U.S. government securities (not shown) have an average and a median of four active APs. In contrast, international equity, emerging markets equity, and emerging markets bond ETFs have an average of three active APs.

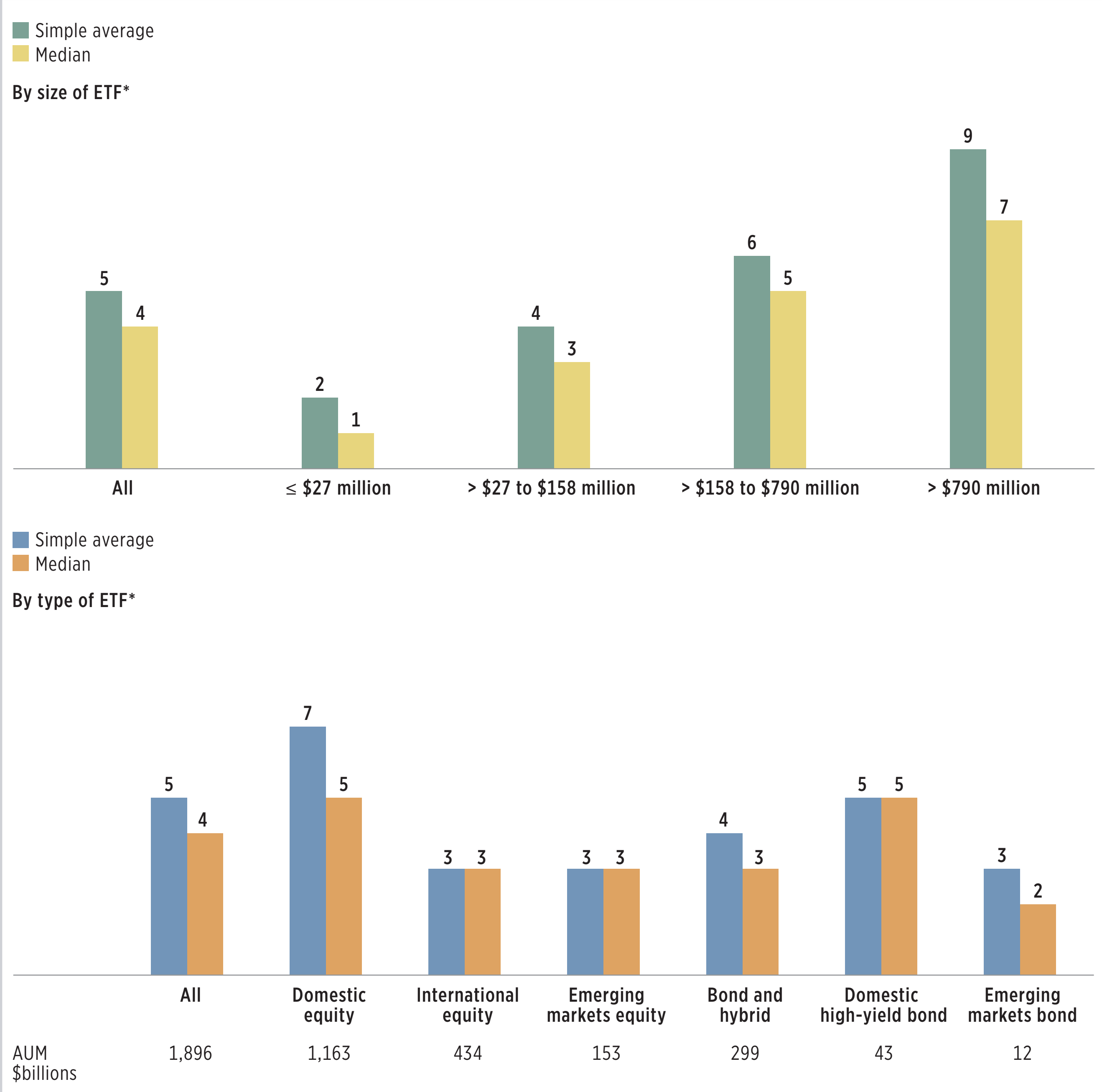
Often, the ability to conduct transactions in foreign securities is more challenging than for domestic securities. For example, some foreign markets require investors to have foreign investor status, a local bank account, a local custodian, and pre-collateralization of trades to access their markets. As a result, APs that do not have these arrangements in place are unable to create and redeem shares of these ETFs. Also, APs that create and redeem ETFs with foreign underlying securities generally are required to post collateral up front with the fund custodian to protect ETF shareholders in the event the AP fails to deliver the agreed-upon securities.[6]

5 For the purposes of the survey, an AP was deemed active in an ETF if it had conducted at least one creation or redemption in that particular ETF's shares in the previous six months.

6 APs that create and redeem ETFs with domestic underlying securities are not required to post collateral upfront when the creation/redemption order is submitted to the fund custodian. If, however, an AP fails to deliver the agreed upon domestic securities by the T+3 settlement date, it would be required to post collateral at that time.

FIGURE 2

Number of Active APs



* Excludes commodity ETFs.

Note: For the purposes of the survey, an AP was deemed active if, as of November 2014, it had conducted at least one creation or redemption in the previous six months.

What Drives Demand for APs?

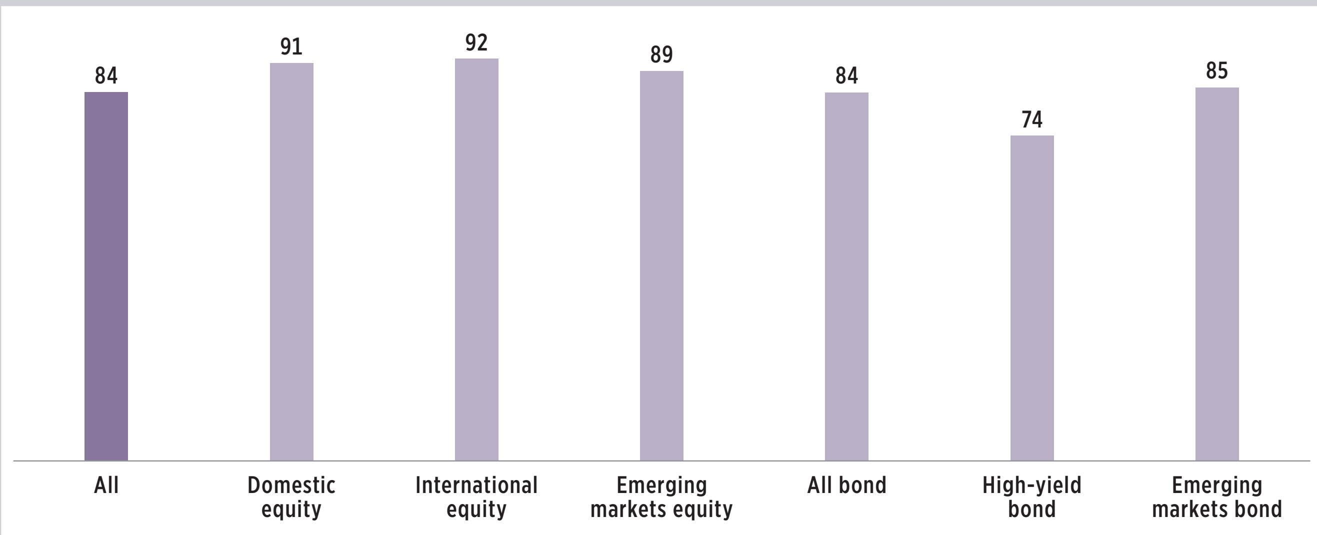
The number of active APs on any given day is directly related to the demand for their services—APs create and redeem ETF shares in response to supply and demand and the inventory management needs of secondary market participants.

» **On most trading days, the vast majority of ETFs do not have any primary market activity—that is, they do not create or redeem shares.** Previous ICI research shows that across different types of ETFs—including emerging markets equity, domestic high-yield bond, and emerging markets bond—about three-quarters or more of the total daily observations for all funds did not have any primary market activity (Figure 3).[7] Although some larger ETFs have creations and redemptions on a daily basis, these ETFs, as noted above, have more APs that are active.

FIGURE 3

The Vast Majority of ETFs Do Not Have Any Creations or Redemptions on a Given Day

Percentage of total fund days with no primary market activity; January 3, 2013–June 30, 2014



Note: Fund days are calculated by adding the total number of ETFs in each category on each day across the total trading days from January 3, 2014, to June 30, 2014.

Sources: Investment Company Institute and Bloomberg

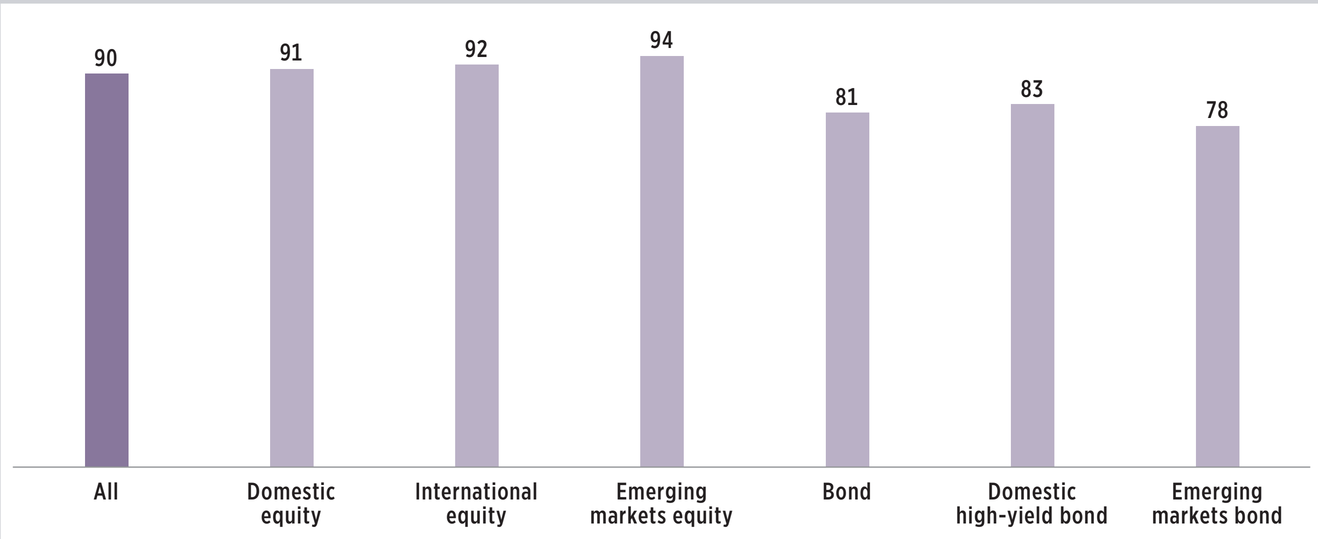
[7] See Rochelle Antoniewicz and Jane Heinrichs, "Understanding Exchange-Traded Funds: How ETFs Work," *ICI Research Perspective* 20 (September 2014). Available at www.ici.org/pdf/per20-05.pdf.

» **ETF investors make greater use of the secondary market (trading shares) than the primary market (creations and redemptions transacted through an AP).** On average, 90 percent of the daily activity in all ETF shares occurs on the secondary market, where the creation and redemption services of an AP are not needed because only the ETF shares are trading hands (Figure 4). Even for narrower asset classes, such as emerging markets equity, domestic high-yield bond, and emerging markets bond, the bulk of the activity is in the secondary market. In instances when the secondary market cannot meet the market supply or demand for the ETF shares, the AP can create or redeem shares to ensure that trading in the secondary market remains fluid. The ability for secondary market participants to create and redeem ETF shares through APs helps keep the ETF prices in the secondary market aligned with their intrinsic values.

FIGURE 4

ETF Investors Use Secondary Market More

Percentage of secondary market activity relative to total trading; daily, January 3, 2013–June 30, 2014*



* Total trading is the sum of primary and secondary market activity; excludes commodity ETFs.
Sources: Investment Company Institute and Bloomberg

- **Most domestic equity ETFs rarely enter the region that makes arbitraging between the price of the ETF and the value of its underlying securities profitable**. Based on an analysis by KCG, 90 percent of domestic equity ETF prices traded below their creation baskets' offer prices or above their redemption baskets' bid prices.[8] When the price of an ETF is inside this band, engaging in arbitrage is a money-losing proposition.

Does the Number of Active APs Matter?

Some have expressed concern that the ETF primary market is too dependent on a limited number of financial institutions and that this dependence could add stress to the financial markets if one of these active APs were to step away from creating and redeeming ETF shares. Two recent instances of an AP stepping away, however, indicate otherwise.

- **Knight Trading Group**, one of the biggest U.S. trading firms, suffered a technology error on August 1, 2012. Knight also was an active AP for most ETF sponsors in the United States. As a result of the firm's losses, Knight's ability to create and redeem ETF shares was severely impaired. Other APs saw an opportunity and stepped in rapidly to fill the void. Certainly, the response was quickest for larger ETFs that invest primarily in domestic equities because these ETFs have more APs that are active and more APs under agreement than other types of ETFs. Nevertheless, even for smaller domestic equity ETFs and U.S. fixed-income ETFs, other APs stepped in to facilitate creations and redemptions and keep the ETF primary market functioning.
- **Citigroup**, a major AP, temporarily ceased transmitting redemption orders to various ETFs that had foreign underlying securities on June 20, 2013, because it had reached an internal net capital ceiling imposed by its corporate banking parent. According to press reports, Citigroup made the business decision to no longer post collateral in connection with redemption activity in these ETFs. Although fewer APs can quickly step into the international space (as noted above), one large AP that was active in these ETFs was able to process the redemption requests without any problems. In addition, investors could have turned to the secondary market, which was functioning normally and not showing signs of stress, to sell their ETF shares.

It is important to remember that even if no APs had stepped forward to create and redeem in either of these cases, the affected ETF shares would have traded like closed-end funds. In addition, the effects would have been contained to the affected ETFs and not transmitted to other ETFs or the underlying securities markets.

[8] Phil Mackintosh, "ETF Insights: ETFs Rarely Enter the Arb Zone," *KCG Market Commentary*, October 16, 2014.

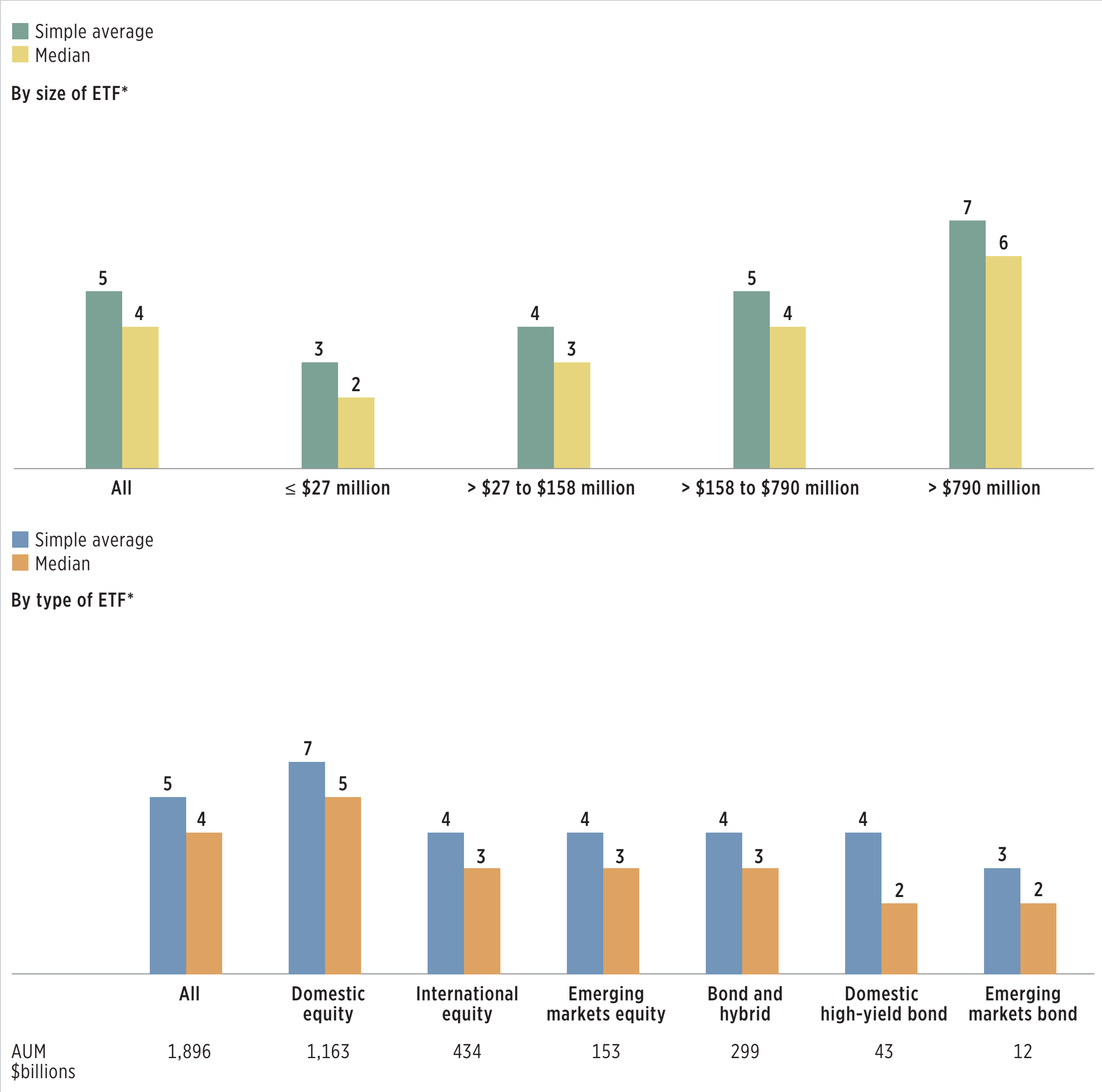
How Many APs Are Registered Market Makers in ETF Shares?

Some AP firms also act as registered market makers for ETF shares in the secondary market. That is, they assume obligations to provide continuous two-sided (buy and sell) quotes for particular ETF shares on certain stock exchanges.

- **ETFs with more assets under management have more APs that are registered market makers than ETFs with fewer assets under management** (Figure 5, top panel). ETFs with more than $790 million in assets have an average of seven APs that are registered market makers and half of them have at least six. ETFs with less than $27 million in assets have an average of three APs that are registered market makers and half of them have at least two. Smaller ETFs tend to have more registered market makers in the secondary market than active APs in the primary market—this is consistent with the results that most ETFs do not have any creations and redemptions on a daily basis and that most of the activity in ETF shares is conducted in the secondary market.
- **Domestic equity ETFs tend to have the most APs that are registered market makers, while emerging markets bond ETFs have the fewest** (Figure 5, bottom panel). Domestic equity ETFs have an average of six APs that are registered market makers and half of them have at least five. Emerging market bond ETFs have an average of three APs that are registered market makers and half of them have at least two. It is important to note that emerging market bond ETFs are a relatively new product with only $12 billion in assets and average daily trading volume of less than $175 million. If these ETFs continue to grow in assets and trading volume, more APs may be inclined to take on the role of a registered market maker.

FIGURE 5

Number of APs That Are Registered Market Makers in ETF Shares



* Excludes commodity ETFs.

Note: For the purposes of the survey, an AP was deemed active if, as of November 2014, it had conducted at least one creation or redemption in the previous six months.

How Many Liquidity Providers Are There in ETF Shares?

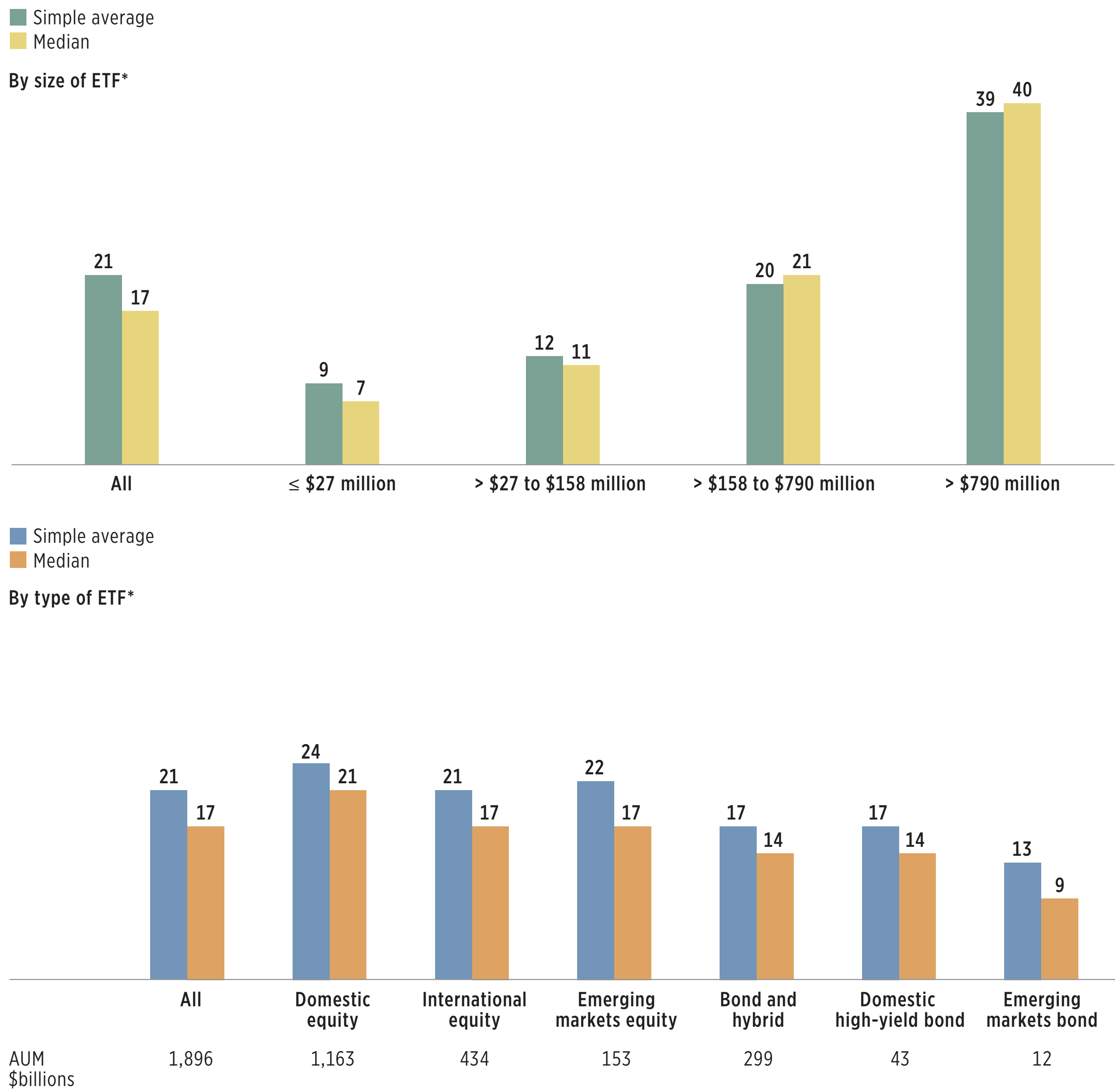
One common misperception is that APs that are registered market makers are the only entities that provide liquidity in the trading of ETF shares in the secondary market. In fact, there are a host of other entities that provide liquidity in ETF shares. These entities can help facilitate trading of ETF shares in the secondary market should a registered market maker come under stress.

This was the case with Knight Trading Group, which was a registered market maker for more than 400 U.S.-listed ETFs ranging in size and across investment objectives (domestic and international, equity, fixed income, and commodity). When Knight's ability to act as a registered market maker for ETF shares was curtailed in the summer of 2012, there was little to no impact on trading in larger ETFs for which Knight was a registered market maker because many other liquidity providers were competing for these trades. For smaller ETFs in which Knight acted as a registered market maker, bid-ask spreads temporarily widened out in the immediate aftermath of Knight's withdrawal, but returned to normal within a day or so as other registered market makers and liquidity providers stepped in.

- **ETFs with more assets under management have more liquidity providers than ETFs with fewer assets under management** (Figure 6, top panel). ETFs with more than $790 million in assets have an average of 39 liquidity providers and half of these ETFs have 40 or more. ETFs with less than $27 million have an average of nine liquidity providers and half have at least seven. This result is unsurprising because larger ETFs have more trading volume than smaller ETFs.
- **Domestic equity ETFs have the most liquidity providers, but other types of ETFs also have multiple liquidity providers in the secondary market** (Figure 6, bottom panel). Domestic equity ETFs have an average of 24 liquidity providers and half of them have at least 21. ETFs in narrower asset classes, such as emerging markets equity, domestic high-yield bond, and emerging markets bond, have an average of 22, 17, and 13, respectively.

FIGURE 6

Number of ETF Liquidity Providers



* Excludes commodity ETFs.

Note: For purposes of the survey, *liquidity provider* was defined as an entity that regularly provides two-sided quotes in the ETF's shares. These figures include registered market makers, which are obligated to provide two-sided quotes.

FIGURE 7

Characteristics of the Survey Sample

November 2014

	Number of ETFs		Total net assets *Billions of dollars*	
Investment objective*	**Sample**	**Industry**	**Sample**	**Industry**
Total	**931**	**1,326**	**1,778**	**1,896**
Equity	**697**	**1,042**	**1,490**	**1,597**
Domestic	379	548	1,098	1,163
International	318	494	392	434
Emerging markets	111	181	140	153
Bond and hybrid	**234**	**284**	**288**	**299**
Domestic high-yield	19	31	40	43
Emerging markets	16	24	11	12

*Excludes commodity ETFs.

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