Foreign Ownership of agency MBS

Prepared by: State Street Global Advisors and Urban Institute's Housing Finance Policy Center
Prepared for Ginnie Mae
July 2019

RESEARCH REPORT[1]

Overseas investors have historically been, and continue to be, a reliable source of demand for agency mortgage-backed securities (MBS), i.e., those issued by Ginnie Mae, Fannie Mae or Freddie Mac, and guaranteed (either explicitly or implicitly) by the United States government. Foreign demand for agency MBS is broad-based, covering all six inhabited continents and nearly 200 countries and territories, although the vast majority of foreign-owned agency MBS is held by just five countries.

This paper discusses the share of outstanding agency MBS owned by foreign investors over time, the nations that have been the biggest buyers, how ownership patterns have changed over time, and likely reasons for such shifts. The main source of data for analyzing foreign ownership of agency MBS is the US Department of Treasury's International Capital (TIC) reporting system[2]. TIC reports cross-border securities investment flows between U.S. and foreign entities once every year, typically in April or May. This data is collected through a survey of US-resident issuers and custodians that issue securities to, or hold them on behalf of foreign-resident clients. The TIC report covers a wide range of securities in addition to MBS. This includes US Treasury securities, corporate and municipal debt, equities, and agency debt. Data on agency MBS flows is available 2003 onwards. This paper incorporates most recent TIC data, released in April 2019 and reported as of June 2018. It is important to note that TIC data for agency MBS is not broken out separately for Fannie Mae, Freddie Mac and Ginnie Mae. Accordingly, this analysis covers all three agencies in aggregate.

Overall foreign demand for agency MBS

Foreign demand for agency MBS has increased substantially since 2003, from $149 billion to over $890 billion in 2017 and over $954 billion in 2018 (Figure 1). Foreign ownership has increased even when

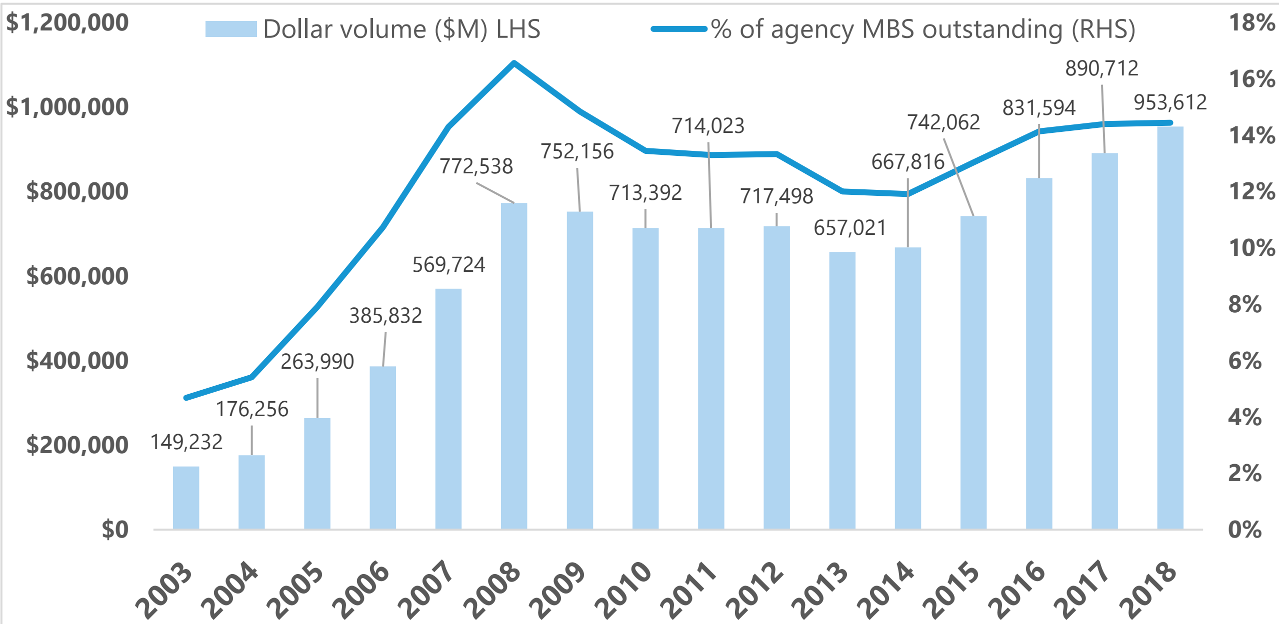
[1] Authored by Karan Kaul and Laurie Goodman at the Urban Institute. All statements and opinions contained herein are those of the authors. See last page for detailed information on the authors and important disclosures.
Revised in July 2019 to incorporate updated TIC data released in April 2019.

[2] See https://www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx

measured as a share of total agency MBS outstanding. Additionally, most of this increase came from 2003 to 2008 (for reasons discussed later), with relatively less growth from 2009 to 2018.

FIGURE 1

Agency MBS Owned by Foreign Entities



Source: Urban Institute calculations based on US Treasury International Capital and SIFMA data.

Even though the volume of agency MBS owned by foreign investors is large at $954 billion, it represents 14.44 percent of the total amount outstanding. This share is up marginally from 14.39 percent a year ago in June 2017, and 14.1 percent in June 2016. Thus the overwhelming majority of agency MBS, about 86 percent, is owned by domestic entities. It is likely that the foreign ownership share varies from Fannie Mae to Freddie Mac to Ginnie Mae MBS. We expect that Ginnie Mae securities, with their explicit full-faith and credit guaranty of the United States have greater appeal to foreign investors than Fannie Mae or Freddie Mac securities, which are implicitly guaranteed.

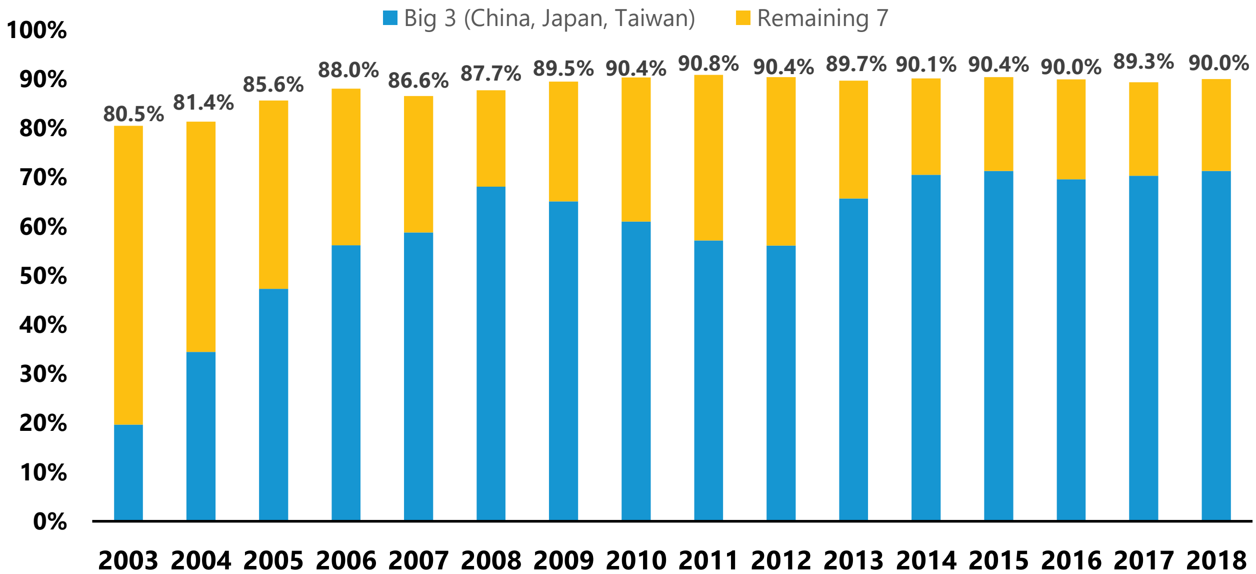
Largest foreign owners of agency MBS

TIC data tracks foreign MBS ownership by individual country. This provides more detailed insight into the ownership pattern across nations. A look at country level holdings shows that foreign ownership of agency MBS has remained highly concentrated within a handful of countries (figure 2) for a long time.

FIGURE 2

Foreign Ownership of Agency MBS is Highly Concentrated

Percentage of foreign MBS held by the top 10 countries, broken out by big 3 (China, Japan and Taiwan) and Remaining 7



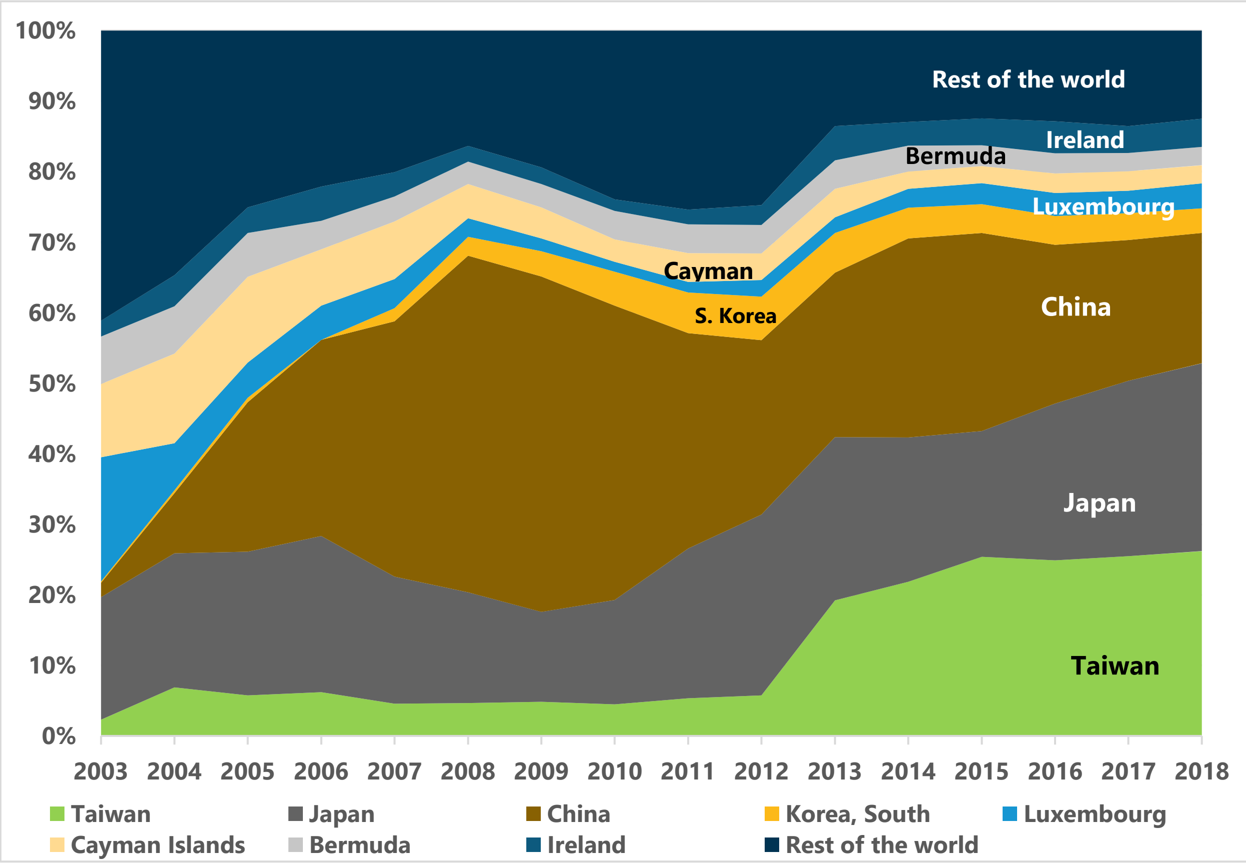
Source: Urban Institute calculations based on US Treasury International Capital data.

Currently, 90 percent of foreign-owned agency MBS is owned by just 10 countries. This is up from 80 percent in 2003, but has remained very stable during the last 10 years. Among the agency MBS that is foreign-owned, as of June 2018, 71.3 percent was held by just three nations – Taiwan, China and Japan, and their concentration has increased since 2003. Collectively Asian countries[3] held 79.7 percent of all foreign held MBS, with Europe owning 12.2 percent as of June 2018. Latin America, Canada, Africa, Carrabean, Australia and others own the remaining 8 percent (Figure 3).

[3] Other large Asian holders of agency MBS include Malaysia, Hong Kong, Saudi Arabia, Singapore, Indonesia and Kuwait. Also see page 46 of https://www.ginniemae.gov/data_and_reports/reporting/Documents/global_market_analysis_apr19.pdf for recent estimates of agency MBS holdings by country.

FIGURE 3

Foreign ownership of outstanding agency MBS by country share



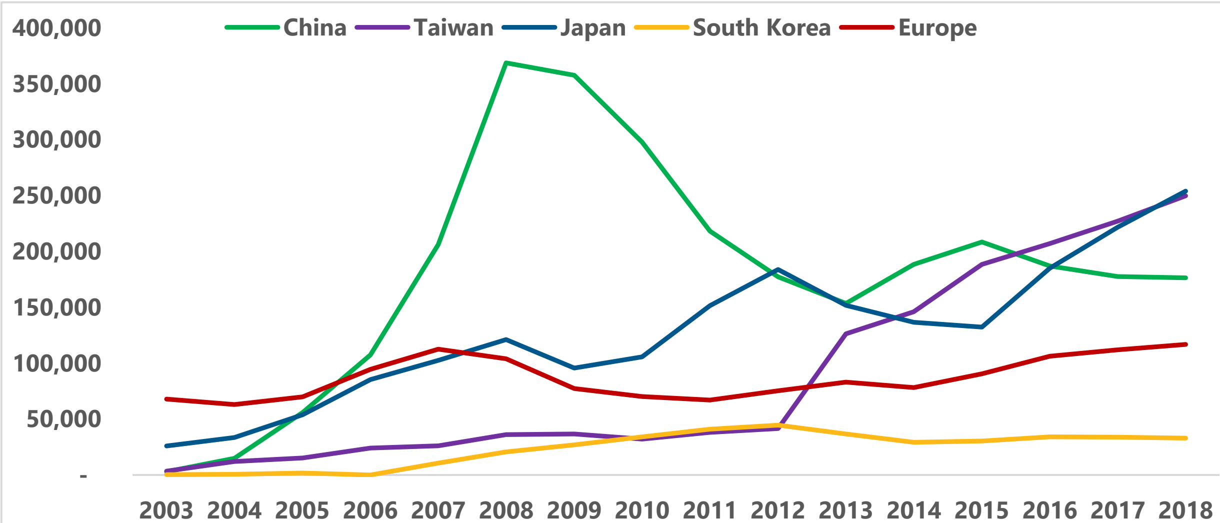
Source: Urban Institute calculations based on US Treasury International Capital data.

Changes in the foreign ownership pattern

As figure 3 shows, the biggest driver of foreign demand in the early 2000s was China, whose rising current account balance and growing foreign exchange reserves (discussed later) provided the catalyst to scale its overseas investments, including in agency MBS. In 2003, China held under $3 billion, or 2 percent of the total foreign-owned agency MBS. At its peak in 2008, it held as much as $368 billion, or 48 percent. But with its growth rate slowing post-2010, China's ownership share has declined to its present level of 18.5 percent. In dollar terms, China held $176.3 billion in June 2018, marginally lower compared to $177.5 billion it held a year ago in June 2017 (figure 4).

FIGURE 4

Agency MBS held by China, Japan and Taiwan, South Korea (USD Millions)



Source: Urban Institute calculations based on US Treasury International Capital data.

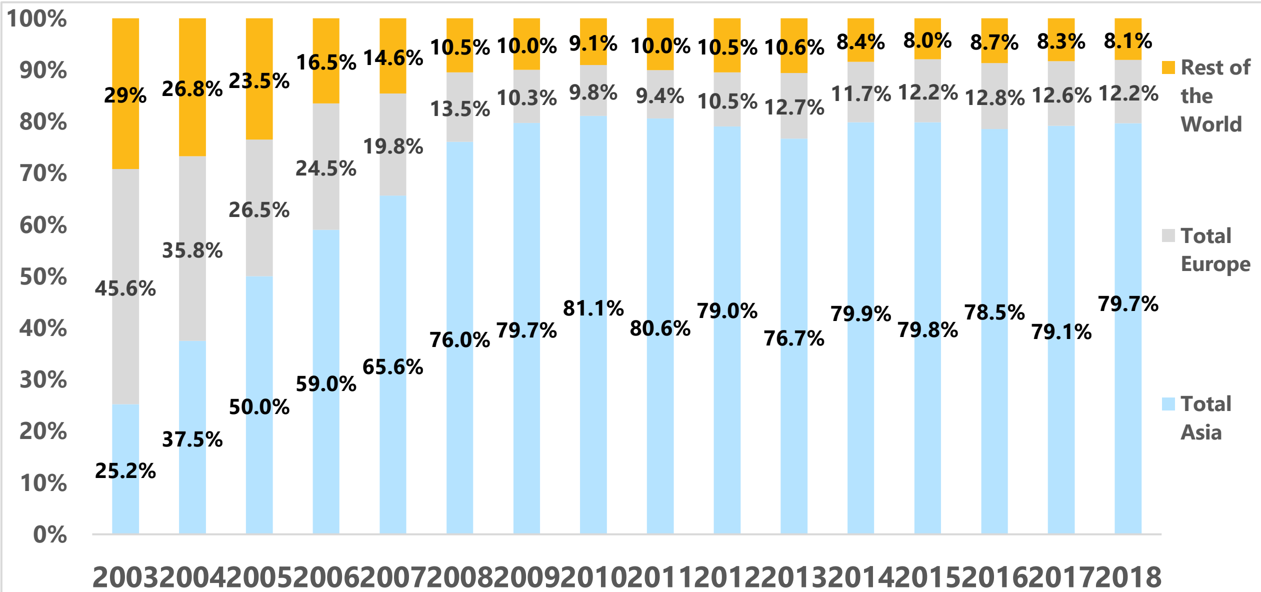
As China has stepped back, other Asian nations have stepped up. Both Taiwan and Japan increased their agency MBS purchases post 2010. Taiwan's holdings increased steadily from \$3.5 billion in 2003 to \$41 billion in 2012. But just one year later in 2013, its holdings more than tripled to \$126 billion. Strong growth has continued thereafter with Taiwan's holdings reaching \$227 billion in 2017 and nearly \$250 billion in 2018. As a result Taiwan not only surpassed China's holdings, but also became the largest foreign holder of agency MBS in 2017.

Japan's holdings have also increased over time; however its rise has been more steady compared to Taiwan's. Japan gradually increased its agency MBS holdings from \$26 billion in 2003 to \$222 billion in 2017 to \$254 billion in 2018, thus becoming the largest foreign owner of agency MBS, followed by Taiwan and China. Another Asian nation that has slightly increased its purchases of agency MBS in the last decade is South Korea, although its holdings are relatively small (\$33 billion in 2018). Lastly, after declining during the financial crisis, Europe's agency MBS ownership level has recovered recently. It is on an steady upward trajectory, reaching \$116.8 billion in June 2018, marginally higher than \$112 billion a year ago and in line with its pre-crisis peal of \$112 billion in 2007.

Growing demand from Japan and Taiwan, even as China has pulled back has meant that Asia's share of agency MBS ownership has continued to remain very high (figure 5). Asia's share grew modestly from 78.5 percent in 2016 to 79.1 percent in 2017 and 79.7 percent in 2018. At the same time, Europe's share – after shrinking from 46 percent in 2003 to under 10 percent in 2011 – saw a modest increase to 12.2 percent in 2018.

FIGURE 5

Foreign Ownership of agency MBS by Region



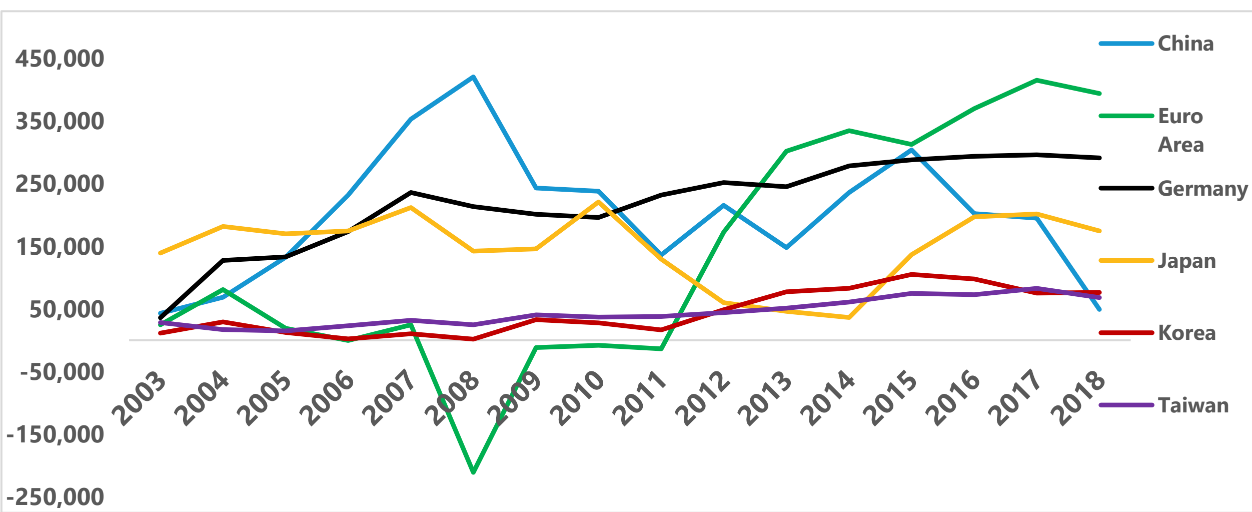
Source: Urban Institute calculations based on US Treasury International Capital data.

Drivers of shift in foreign demand

The most significant shift in foreign ownership of agency MBS in the last 15 years has been the rise of Asia. As the Chinese economy grew during the 2000s, its current account balance (CAB) and its foreign exchange reserves both swelled. Huge trade surplusses year after year, especially with the US, and low levels of domestic consumer spending left China flush with cash.

FIGURE 6

Current Account Balance, USD Millions



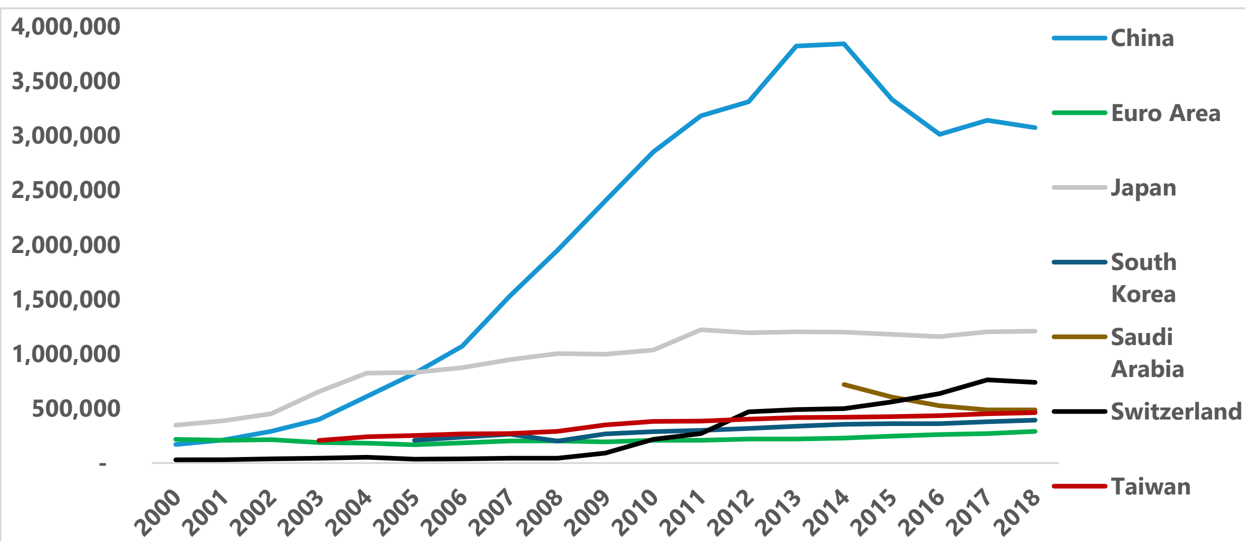
Source: International Monetary Fund

As the growth rate of the Chinese economy has slowed down more recently, its CAB has shrunk from its 2008 peak of $420 billion to about $49 billion in 2018, a fifteen year low. On the other hand, Taiwan and Japan, two nations that have significantly increased their holdings of agency MBS in recent years, have seen a several fold increase in their current account balance since the financial crisis. In contrast, Europe's CAB remained very low until 2011, even becoming negative in 2008 and 2009 because of the global financial meltdown. Since then however, EU has seen a very strong recovery, with a 2018 CAB of $394 billion (figure 6).

But Europe's growing CAB has not yet translated into a significant increase in its agency MBS holdings. The most likely reason is that Europe's foreign exchange reserves remain low at $290 billion (figure 7). China's foreign exchange reserves currently stand at well over $3 trillion, accumulated over a decade of trade surpluses. Japan, Taiwan and South Korea also hold significant forex reserves worth $1.2 trillion, $461 billion and $392 billion respectively, that have contributed to increases in their holding of agency MBS in recent years. Figure 7 also shows trends in foreign reserves of Switzerland and Saudi Arabia – two nations that hold large foreign reserves but own very little agency MBS.

FIGURE 7

Foreign Exchange Reserves, USD Millions



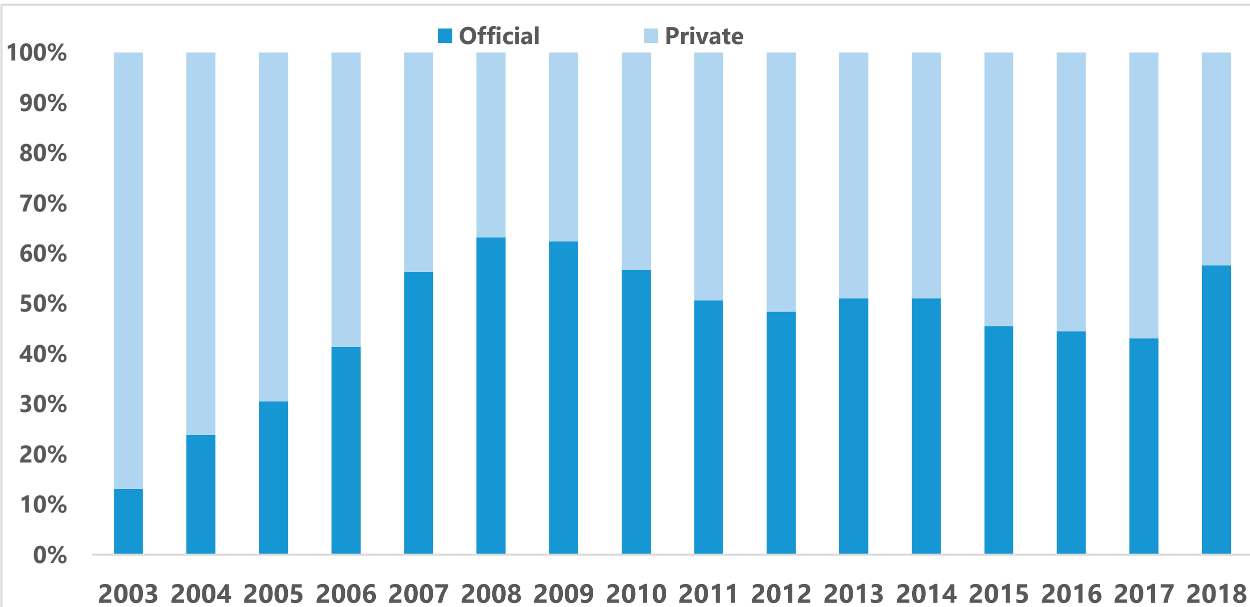
Source: International Monetary Fund

Official vs. private entity MBS holdings

Another shift in the foreign ownerhsip of agency MBS is from official institutions to private entities. Official institutions includes governments, government institutions, foreign central banks and government-owned investment funds such as soverign wealth funds. According to TIC data, in the early 2000s, the overwhelming majority of foreign-owned MBS (87 percent) was held by private entities, while only 13 percent was held by official institutions (figure 8). By 2010 however, official institutions had increased their share to well over 60 percent, predominantly driven by the growth in China's official holdings. With China's retreat, the official share of foreign owned agency MBS declined to about 45 percent in 2017. The official share jumped significantly in 2018 but was driven by a TIC reporting correction, which moved about $120 billion in agency securities from private to official. Data for prior years weren't restated, thus making comparisons to 2018 difficult. Regardless, with a bigger share of foreign owned MBS held by official institutions today than in early 2000s, foreign demand for MBS should remain more sensitive to movements in trade surpluses and foreign exchange reserves.

FIGURE 8

Foreign Ownership of agency MBS by Owner Type



Source: Urban Institute calculations based on US Treasury International Capital data.

Future of foreign ownership of agency MBS

Overall foreign ownership share: As shown in Figure 1 earlier, foreign ownership of agency MBS has increased over time. Between 2004 and 2008, the share of outstanding agency MBS owned by foreign entities increased from 5.4 percent to 16.6 percent. After declining during the Great Recession, this share has crept back up to 14.4 percent presently. At the same time, the year over year growth in the volume of MBS that is foreign-owned has exceeded the annual growth in agency MBS outstanding in 10 out of the last 15 years. Even as foreign growth has moderated signficantly post-crisis (Table 1), it nevertheless outpaces the growth rate for total MBS outstanding. Between June 2017 and June 2018, total agency MBS outstanding grew by 6.7 percent compared to 7.1 percent for foreign-owned MBS. If this trend remains in place, the share of MBS owned by foreigners will continue to rise in the coming years, although the rate of increase will be much slower than witnessed in booming mid-2000s.

TABLE 1

Annual Growth Rates for total agency MBS Outstanding and Foreign Owned

	agency MBS outstanding	foreign owned agency MBS
2004	2.1%	18.1%
2005	2.5%	49.8%
2006	7.7%	46.2%
2007	10.9%	47.7%
2008	17.0%	35.6%
2009	8.6%	-2.6%
2010	4.7%	-5.2%
2011	1.2%	0.1%
2012	0.2%	0.5%
2013	1.7%	-8.4%
2014	2.4%	1.6%
2015	1.6%	11.1%
2016	3.3%	12.1%
2017	5.2%	7.1%
2018	6.7%	7.1%

Source: Urban Institute calculations based on US Treasury International Capital data. Note: All calculations based on USD amounts

Region/Country level holdings: As discussed previously, the vast majority (79.7 percent) of foreign-owned agency MBS is held by Asian nations. This level has remained quite stable during the last 8 years. Additionally, with its large foreign exchange reserves, Asian dominance is likely to continue for the forseeable future. At the same time, as the EU region's trade surplus and forex reserves grow, one can expect EU's holdings of agency MBS to remain stable or grow modestly.

Recent increases in Europe's ownership share are likely driven by private entities as opposed to by official government institutions. About 71 percent of agency MBS owned by Europe is held by just three countries – Luxembourg, Ireland and Switzerland. All three are major financial centers that attract significant investment from overseas either because they have favorable tax and regulatory regimes (Luxembourg and Ireland) or because they specialize in offering trust and custodial services to global clients (Switzerland). While Europe's agency MBS holdings might continue growing, for the most part, that growth will likely be driven by private entities.

Another factor that could affect future foreign holdings is the ratio of agency MBS owned to foreign exchange reserves for each country. Table 2 shows this ratio for various regions.

TABLE 2

Agency MBS Owned as a Percentage of Foreign Exchange Reserves, by Country

	China	Taiwan	Japan	S Korea	Euro	Saudi Arabia	Switzerland
2003	0.7%	1.7%	4.0%		36.3%		10.8%
2004	2.5%	5.0%	4.1%		34.9%		9.1%
2005	6.8%	6.0%	6.5%	0.8%	41.8%		10.3%
2006	10.0%	9.0%	9.8%	0.0%	51.5%		10.5%
2007	13.5%	9.7%	10.8%	4.1%	55.5%		14.7%
2008	18.9%	12.4%	12.1%	10.3%	51.5%		0.0%
2009	14.9%	10.5%	9.6%	10.1%	39.7%		0.0%
2010	10.4%	8.4%	10.2%	11.9%	33.9%		2.4%
2011	6.9%	9.9%	12.4%	13.8%	32.2%		2.3%
2012	5.4%	10.3%	15.4%	14.0%	34.3%		1.6%
2013	4.0%	30.3%	12.6%	10.9%	38.0%		1.8%
2014	4.9%	34.8%	11.4%	8.2%	34.2%	0.0%	2.0%
2015	6.3%	44.2%	11.2%	8.4%	36.8%	0.9%	2.0%
2016	6.2%	47.7%	16.0%	9.5%	40.7%	1.3%	1.8%
2017	5.7%	50.3%	18.4%	8.9%	41.7%	1.0%	1.8%
2018	5.7%	54.1%	21.0%	8.4%	40.3%	0.6%	1.5%

Source: Urban Institute calculations based on US Treasury International Capital data **Note**: Some cells are empty because underlying data are unavailable; All calculations are based on USD amounts

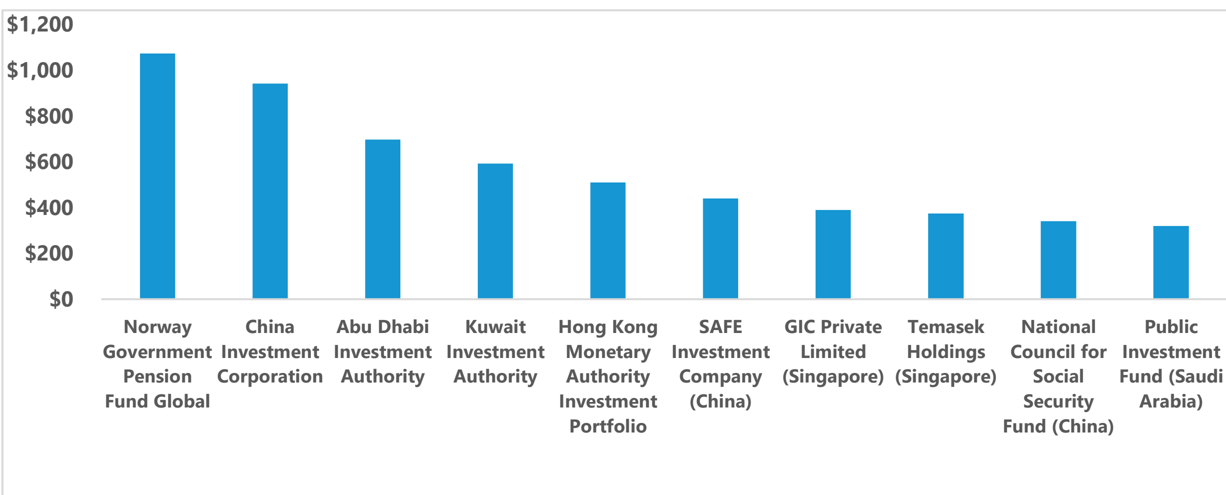
China's current agency MBS holdings of $176 billion comprise 5.7 percent of its over $3 trillion in foreign exchange reserves. Japan's $254 billion comprise 21 percent of its $1.2 trillion in forex reserves, while South Korea's holdings comprise 8.4 percent of its reserves. This suggests all three have room to grow their official holdings in the future. In contrast, Taiwan and Europe have both elected to invest a much larger portion of their forex reserves (54.1 percent and 40.3 percent respectively) in agency MBS, suggesting relatively less flexibility in growing their official holdings. This could be a limiting factor for future Taiwanese and European demand for agency MBS.

At the other end of the spectrum are Switzerland and Saudi Arabia – two nations with significant forex reserves, $738 billion and $486 billion respectively, but very little agency MBS, $10.8 billion and $2.8 billion respectively, representing less than 2 percent of forex reserves for each. Saudi Arabia's holdings are actually on a downward trend – declining from $6.8 billion in June 2016 to $4.6 billion in June 2017 to $2.8 billion in June 2018.

Sovereign Wealth Funds: Sovereign wealth funds (SWFs) could be another source of demand for agency MBS. SWF holdings are classified as official and are included in the official numbers for the purposes of the TIC reporting. SWFs have witnessed a tremendous increase in assets under management in recent decades. Currently SWFs manage a total of $7.7 trillion in assets globally[4] across equities, fixed income, real estate and alternative investments. About 73 percent of global SWF assets are held by the 10 largest funds.

FIGURE 9

Top 10 Sovereign Wealth Funds by Assets Under Management (USD Billions)



Source: Sovereign Wealth Fund Institute

A high level analysis of the biggest SWFs shows that their allocation to securitized mortgage products tends to be very low. The largest SWF in the world, Norway's Government Pension Fund currently invests a total of $307 billion in fixed income assets globally (representing 28% of its $1,073 billion under management). Of this $307 billion, about $117 billion is invested in US fixed income assets, almost entirely in US treasuries and

[4] https://www.swfinstitute.org/sovereign-wealth-fund-rankings/

corporate bonds. Only a miniscule portion of the Fund is invested in US securitized assets, none of which is agency MBS.

Similarly, China Investment Corporation, with total assets under management of $941 billion[5] invests an even smaller share of its assets (15%) in fixed income investments globally. About 15% of this (i.e. 2.25%) is invested in securitized products globally. Abu Dhabi Investment Authority, the third largest SWF invests only a small portion of its portfolio in fixed income assets[6].

SWFs tend to be more yield driven and have a higher appettite for risk, which explains lower fixed income allocations. At the same time, given their sizable assets under management, even a small increase in their allocation towards agency MBS could provide significant demand. While a full fledged analysis of the securitized MBS holdings of SWFs is beyond the scope of this paper, these numbers suggest SWFs are another potential source of demand for agency MBS.

Conclusion

Foreign entities are a stable and an important source of demand for agency mortgage-backed securities. For several years, the volume of agency MBS owned by foreign entities has grown at a faster rate than the volume of total agency MBS outstanding. If this trend remains in place, the foreign owned share of agency MBS will continue to rise. Foreign demand helps diversify the investor base for agency MBS, attract capital into the US housing market and facilitate lower mortgage rates for US homebuyers. Currently the overwhelming majority of foreign-owned agency MBS, about 80 percent, is held by Asia, primarily Japan, Taiwan and China.

The growth of Asia's holdings in the early 2000s, especially China's rise, fundamentally altered the foreign ownership pattern of agency MBS. Despite China's pullback in recent years, foreign ownership of agency MBS hasn't been materially affected because Japan and Taiwan, and to a lesser extent South Korea and Europe have all increased their presence. As a result, overall share of foreign ownership of agency MBS has continued to remain stable, a trend we expect will remain in place in the near future.

[5] http://www.china-inv.cn/wps/wcm/connect/f16ecfee-5ce2-453e-8a5c-45c0f0874a9a/CICAnnualReport2016.pdf?MOD=AJPERES&CACHEID=f16ecfee-5ce2-453e-8a5c-45c0f0874a9a
[6] http://www.sovereignwealthcenter.com/fund/1/Abu-Dhabi-Investment-Authority.html#.WbA-YrJ94_k

About the Authors

Karan Kaul is a research associate in the Housing Finance Policy Center at the Urban Institute. He researches topical housing finance issues to highlight the market impact of ongoing regulatory, industry, and related developments. He is also responsible for monitoring and reporting on mortgage market trends and current events weekly. Kaul came to Urban after five years at Freddie Mac, where he worked on various housing policy issues primarily related to the future of housing finance and the reform of the government-sponsored enterprises. Before Freddie Mac, Kaul worked as a research analyst covering financial institutions. He holds a bachelor's degree in electrical engineering and an MBA from the University of Maryland, College Park.

Laurie Goodman is co-director of the Housing Finance Policy Center at the Urban Institute. The center provides policymakers with data-driven analyses of housing finance policy issues they can depend on for relevance, accuracy, and independence. Before joining Urban in 2013, Goodman spent 30 years as an analyst and research department manager at several Wall Street firms. From 2008 to 2013, she was a senior managing director at Amherst Securities Group LP, a boutique broker-dealer specializing in securitized products, where her strategy effort became known for its analysis of housing policy issues. From 1993 to 2008, Goodman was head of global fixed income research and manager of US securitized products research at UBS and predecessor firms, which were ranked first by Institutional Investor for 11 straight years. Before that, she was a senior fixed income analyst, a mortgage portfolio manager, and a senior economist at the Federal Reserve Bank of New York. Goodman was inducted into the Fixed Income Analysts Hall of Fame in 2009. Goodman serves on the board of directors of the real estate investment trust MFA Financial, is an adviser to Amherst Capital Management, and is a member of the Bipartisan Policy Center's Housing Commission, the Federal Reserve Bank of New York's Financial Advisory Roundtable, and Fannie Mae's Affordable Housing Advisory Council. She has published more than 200 journal articles and has coauthored and coedited five books. Goodman has a BA in mathematics from the University of Pennsylvania and an MA and PhD in economics from Stanford University.

Disclosure

Tracking Code: 2559406.2.1.AM.INST
Expiration: July 31, 2020