Foreign Ownership of agency MBS

Prepared by: State Street Global Advisors and Urban Institute's Housing Finance Policy Center
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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, around 90 percent of foreign-owned agency MBS is held by just ten countries.

This paper discusses historical trends in foreign-owned agency MBS, the nations that have been the biggest buyers, how ownership patterns have evolved over time, and likely reasons for these shifts. The main source of data on 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 2021 and reported as of June 2020. 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

For the second consecutive year, foreign ownership of agency MBS exceeded $1 trillion in 2020. It stood at $1.16 trillion in June 2020 compared to $1.08 trillion as of June 2019. This represents a year over year increase of $82 billion, or 7.6 percent. Foreign demand for agency MBS has increased substantially over the long term as shown in Figure 1. Foreign ownership has increased even when measured as a share of total agency MBS outstanding. Additionally, most of this increase came from 2003 to 2008, with relatively less growth from 2009 to 2020.

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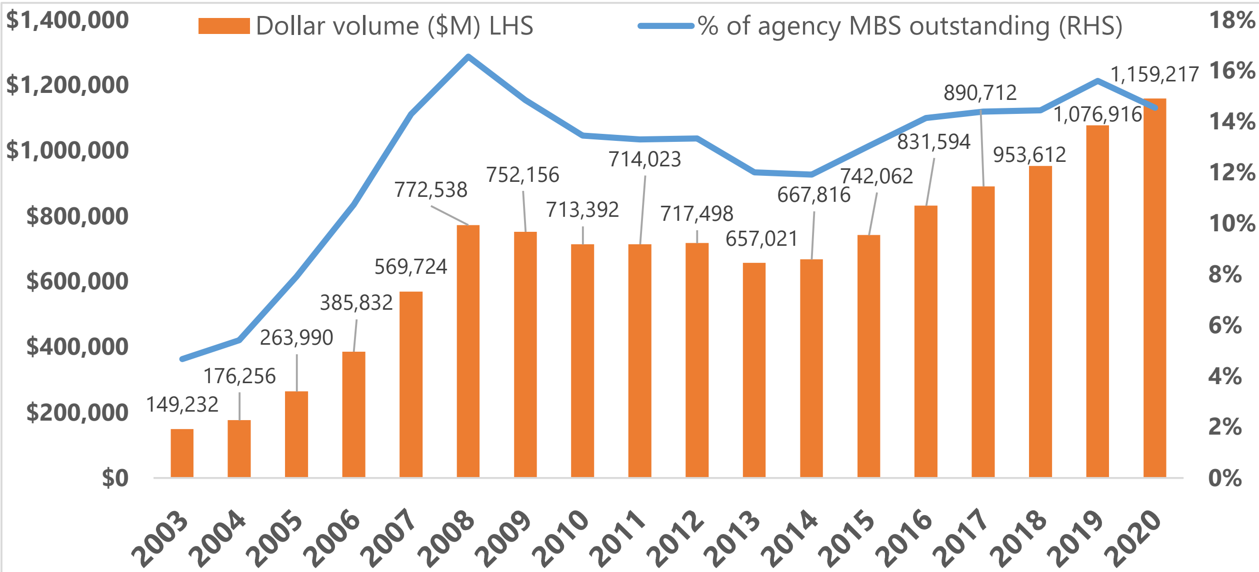
[1] Authored by Karan Kaul and Daniel Pang at the Urban Institute. All statements and opinions contained herein are those of the authors. See last page for important disclosures.
Revised in June 2021 to incorporate updated TIC data released in April 2021.

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

FIGURE 1

Agency MBS Owned by Foreign Entities



***Source:** Urban Institute calculations based on US Treasury International Capital and SIFMA data. As of June 30, 2020.*

Even though the volume of agency MBS owned by foreign investors is large at $1.16 trillion, it represents 14.5 percent of the $7.9 trillion in outstanding. This share is down slightly from 15.6 percent the prior year, driven by robust refinance activity trigerred by lower rates during the pandemic . The overwhelming majority of agency MBS, 85.5 percent, is owned by domestic entities, including the Federal Reserve, whose holdings have increased during the last year. It is likely that the foreign ownership share varies from Ginnie Mae to Fannie Mae to Freddie Mac as Ginnie securities have the explicit full-faith and credit guaranty in statute, while Fannie Mae and Freddie Mac securities have an implicit guaranty that the United States, as a matter of policy, chose to honor during the financial crisis. We expect 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 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. Currently, 87.7 percent of foreign-owned agency MBS is owned by just 10 countries. This is up from 80 percent in 2003, but has remained stable during the last 10 years. Among the agency MBS that is foreign-owned, as of June 2020, 69.5 percent was held by just three nations – Japan, Taiwan, and China. Their combined share has increased since 2003 but has remained stable since 2014 . Collectively Asian countries[3] held 77.9percent of all foreign held MBS, with Europe owning 12.2percent as of June 2020[4]. Latin America, Canada, Africa, Carrabean, Australia and others own the remaining 9.7percent (Figure 3).

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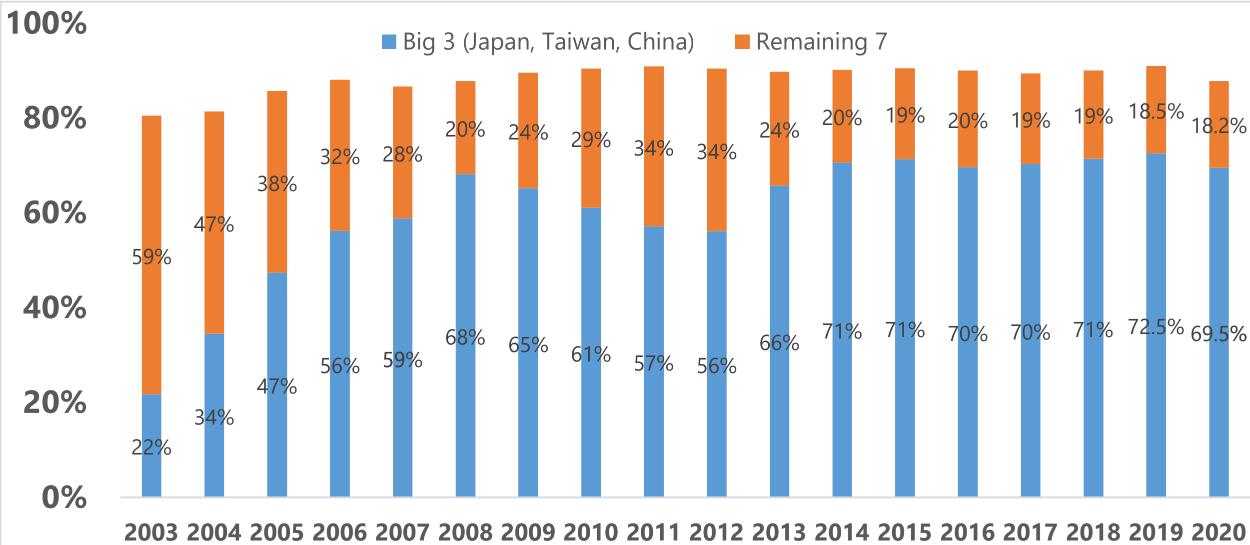
[3] Other large Asian holders of agency MBS include Malaysia, Hong Kong, Saudi Arabia, Singapore, Indonesia and Kuwait. Also see page 46 of https://www.ginniemae.gov/data_and_reports/reporting/Documents/global_market_analysis_may21.pdf for recent estimates of agency MBS holdings by country.

[4] Foreign investors report encountering regulatory hurdles in Europe that make holding Ginnie Mae MBS costlier than holding similarly situated (i.e. zero credit risk) investments. Specifically, there have been instances where European regulators have assigned credit risk ratings to MBS that

FIGURE 2

Foreign Ownership of Agency MBS is Highly Concentrated

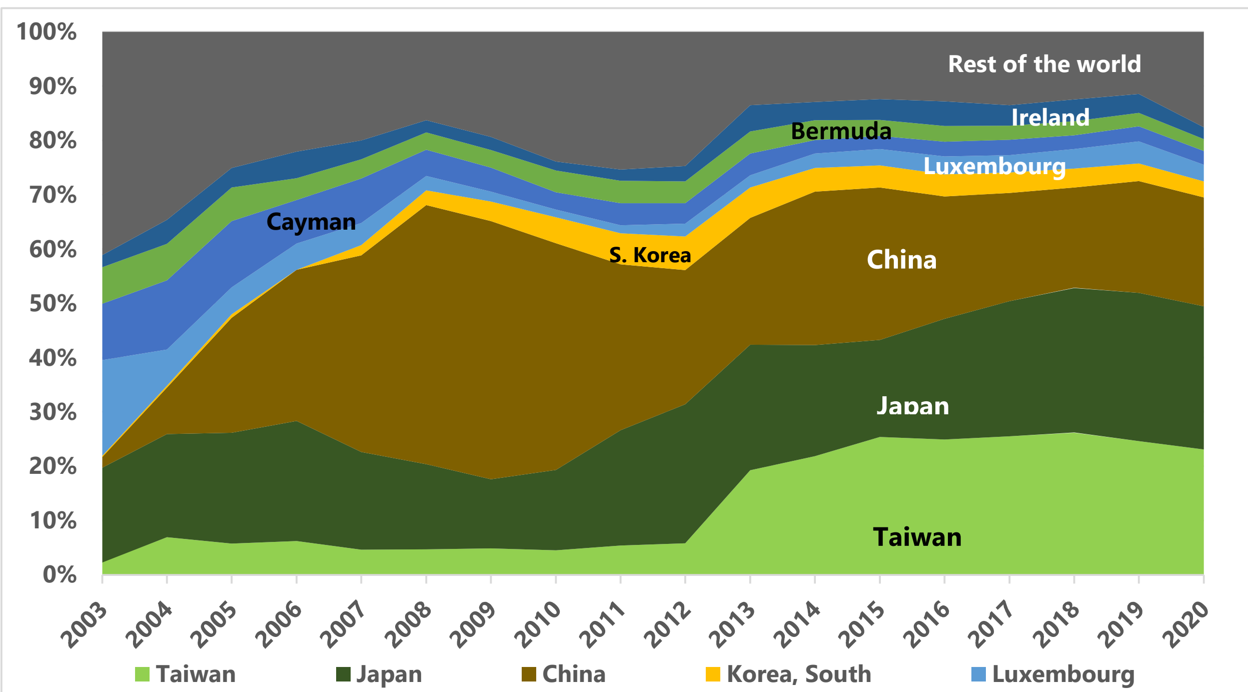
Percentage of foreign MBS held by the top 10 countries, broken out by big 3 (China, Japan and Taiwan) and Remaining 7



Source: Urban Institute calculations based on US Treasury International Capital data. As of June 30, 2020.

FIGURE 3

Foreign ownership of outstanding agency MBS by country share



Source: Urban Institute calculations based on US Treasury International Capital data. As of June 30, 2020.

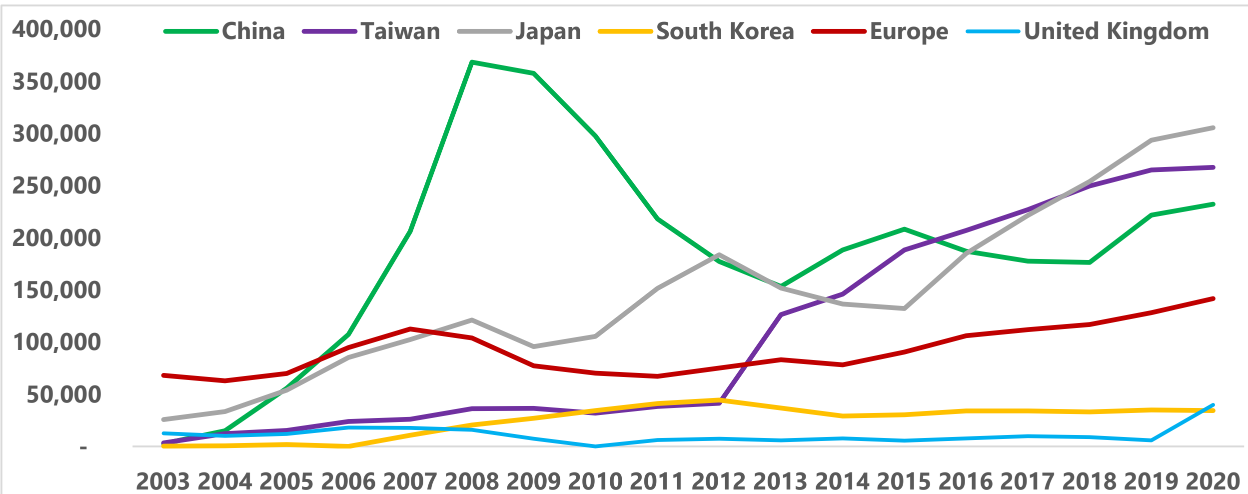
do not recognize that Ginnie Mae securities have no credit risk. This treats Ginnie Mae securities in a different way than the BASEL framework, which assigns Ginnie Mae securities a 0 percent risk weighting,

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 fueled its overseas investments, including in agency MBS. In 2003, China owned under $3 billion, or 2 percent of all foreign-owned agency MBS. At its peak in 2008, it held as much as $368 billion, or 48 percent. With its growth rate slowing post-2010, China's ownership share declined to 20.0percent in June 2020, and decreased on a year over year basis, from 20.6percent in June 2019. In dollar terms, China held $232.2billion in June 2020 compared to $221.7billion in June 2019 (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 of June 30, 2020.

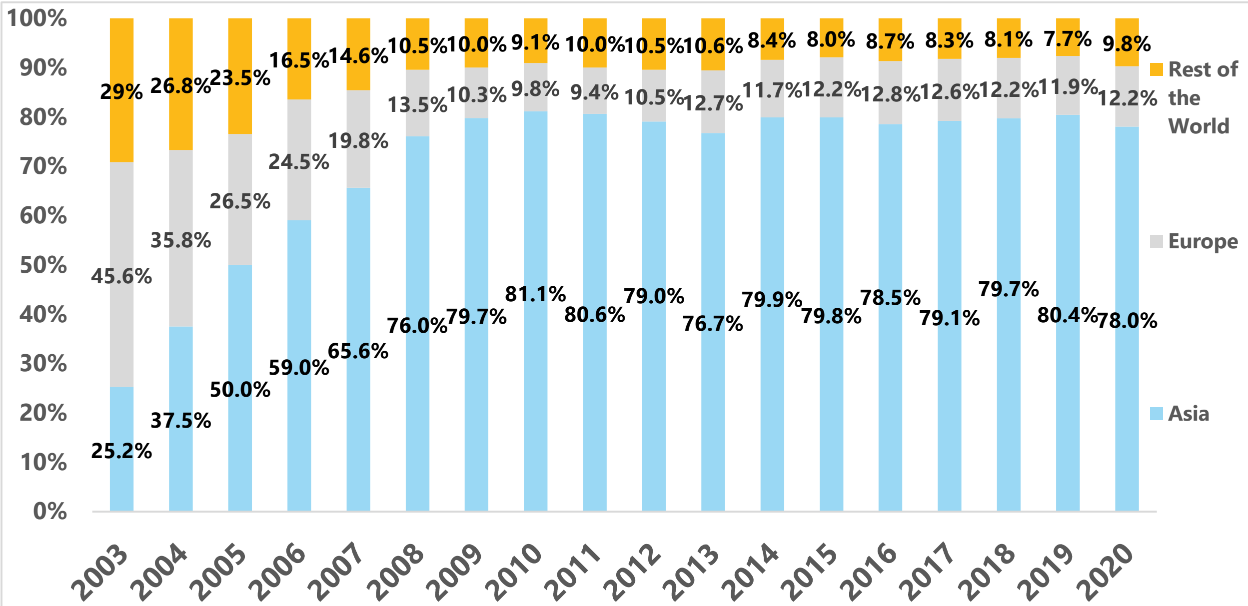
As China's growth has slowed, other Asian nations have increased their holdings. Both Taiwan and Japan increased their agency MBS purchases post 2010. Taiwan's holdings increased steadily from $3.5 billion in 2003 to $41 billion in 2012. But just one year later in 2013, its holdings more than tripled to $126 billion. Strong growth has continued thereafter with Taiwan's holdings reaching $267 billion in 2020, up from $265 billion in 2019. Taiwan has held more agency MBS than China since 2016.

Japan's holdings have also increased over time, from $26 billion in 2003 to $306 billion in 2020, thus becoming the largest foreign owner of agency MBS with a 26.4 percent share. Another Asian nation that has slowly increased its purchases of agency MBS in the last decade is South Korea, although its holdings are relatively small ($34 billion in 2020). Lastly, after declining during the financial crisis, Europe's agency MBS ownership level has recovered, reaching $142.0 billion in June 2020, slightly higher than $128.3 billion in June 2019. Luxembourg and Ireland, two largest owners of agency MBS in Europe experienced a year over year decline in their holdings from 2019 to 2020 but the decline was offset by substantial growth in United Kingdom's holdings, which jumped from $5.8 billion to $39.9 billion.

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, howering around 80 percent over the last decade (figure 5). 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 2020.

FIGURE 5

Foreign Ownership of agency MBS by Region



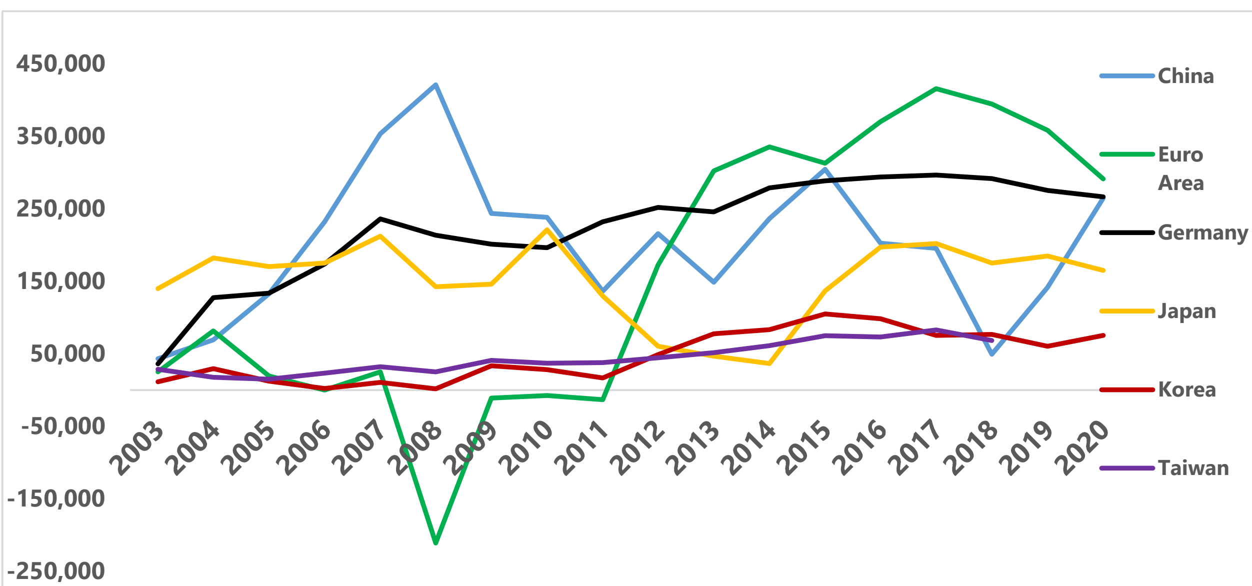
Source: Urban Institute calculations based on US Treasury International Capital data. As of June 30, 2020.

Drivers of shift in foreign demand

The most significant shift in foreign ownership of agency MBS in the last 16 years has been the rise of Asia. As the Chinese economy grew during the 2000s, its current account balance (CAB) and foreign exchange reserves swelled. Huge trade surplusses 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. ***Note:*** *Taiwan's CAB is no longer available from IMF. As of June 30, 2020.*

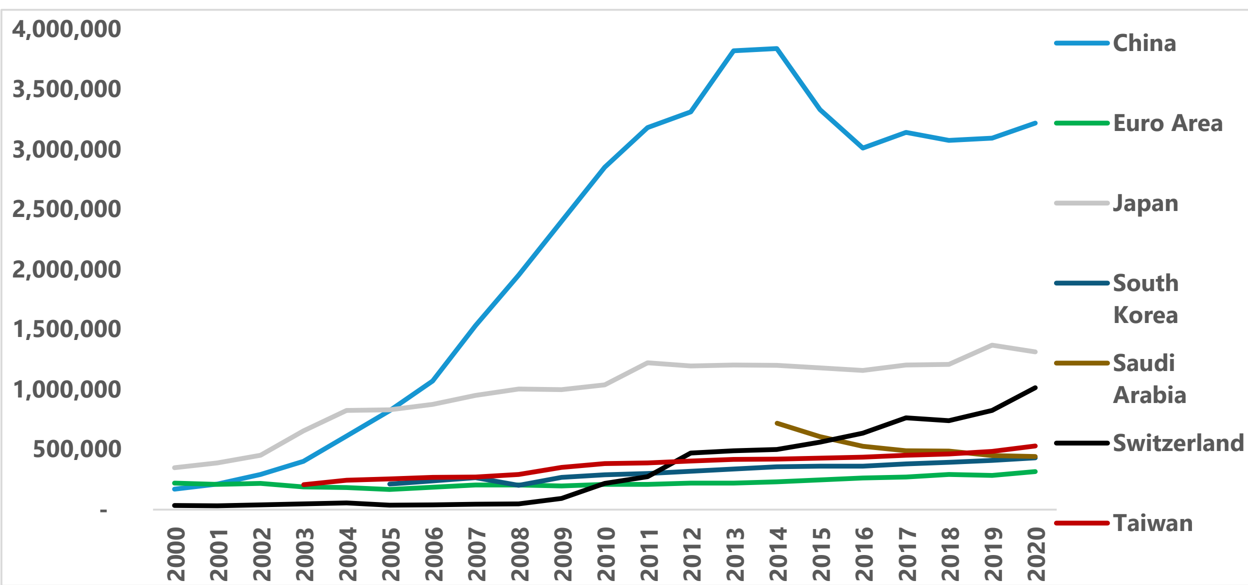
With China's growth slowing , its CAB has shrunk from its 2008 peak of $420 billion to $265 billion in 2020. On the other hand, Taiwan and Japan have seen their current account balances increase since the Great Recession, allowing them to increase their holdings of agency MBS. Europe's CAB remained very low until 2011, even becoming negative in 2008 and 2009 because of the global financial meltdown. Since then, EU has seen a very strong recovery, with a 2020 CAB of $290.8 billion (figure 6).

Europe's growing CAB has not yet translated into a significant increase in its agency MBS holdings. The most likely reason is EU regulatory capital requirements, which make it expensive to hold MBS. EU regulations assign high Solvency Capital Requirements to Ginnie Mae Securities and don't consider Ginnie Mae's explicit sovereign guaranty. Ginnie Mae Securities are unconditionally and irrevocably backed by the full faith and credit of the United States. Ginnie Mae is fully authorized to issue obligations to the United States Treasury, if necessary, and the Treasury is fully authorized to purchase all such obligations to meet the full faith and credit guaranty.

In addition, Europe's foreign exchange reserves remain relatively small at $317 billion in 2020 (figure 7.) China's foreign exchange reserves currently stand at over $3.2 trillion, accumulated over a decade of large trade surpluses. Japan and Taiwan also hold significant foreign exchange reserves worth $1.31 trillion and $530 billion respectively, which have contributed to increases in their MBS holdings. Figure 7 also shows trends in foreign exchange reserves of Switzerland and Saudi Arabia – two nations that hold large foreign reserves but very little agency MBS.

FIGURE 7

Foreign Exchange Reserves, USD Millions



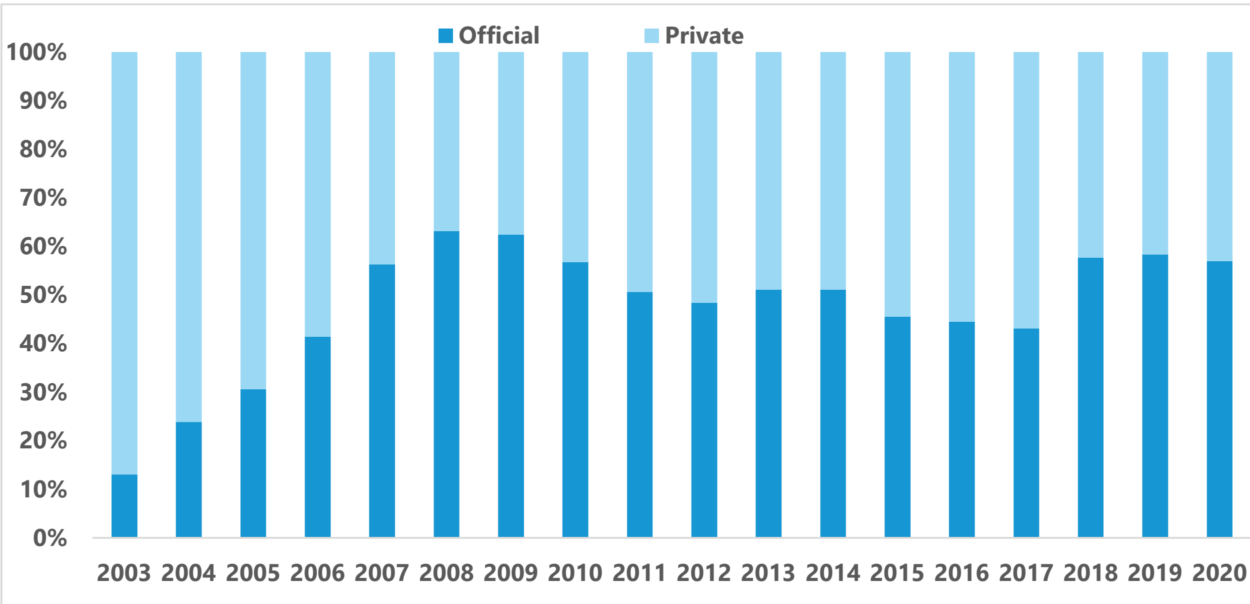
Source: *International Monetary Fund & Central Bank of The Republic of China (Taiwan). As of June 30, 2020.*

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, 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 declined to about 57.0 percent percent in 2020. 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. As of June 30, 2020.*

Future of foreign ownership of agency MBS

Overall foreign ownership share: *As discussed earlier, foreign ownership share of agency MBS has increased over time, currently standing 14.5 percent. The year over year growth in the volume of MBS that is foreign-owned has exceeded the annual growth in agency MBS outstanding in 11 out of the last 17 years since 2004. Even as foreign growth has moderated signficantly post-crisis (Table 1), it outpaces the growth rate for MBS outstanding. However, between June 2019 and June 2020, total agency MBS outstanding grew by a robust 15.4 percent amidst very strong new issuance activity. This compares to a 7.6percent year over year increase for foreign-owned MBS.*

TABLE 1

Annual Growth Rates for 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%*
2019	*4.6%*	*12.9%*
2020	*15.4%*	*7.6%*

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 (78.0 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 grow modestly. Recent increases in Europe's ownership share are likely driven by private entities as opposed to by official institutions. About 77 percent of agency MBS owned by Europe is held by four countries – UK, Luxembourg, Ireland and Switzerland. All four are major financial centers that attract significant overseas investment, in some cases due to favorable tax regimes (Luxembourg and Ireland) or because they specialize in offering trust,custodial and other financial services to global clients (Switzerland and UK). This suggests that future growth in EU's ownership of agency MBS will likely be driven by private entities, partially impacted by enhanced EU regulatory capital requirements that make it expensive to hold MBS.*

Buying capacity: *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 by country.*

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%
2019	7.2%	55.1%	21.5%	8.6%	45.3%	1.1%	1.2%
2020	7.2%	50.5%	23.3%	8.0%	44.8%	0.5%	0.9%

***Source**: Urban Institute calculations based on US Treasury International Capital data & Central Bank of the Republic of China (Taiwan) **Note**: Some cells are empty because underlying data are unavailable; All calculations are based on USD amounts. As of June 30, 2020.*

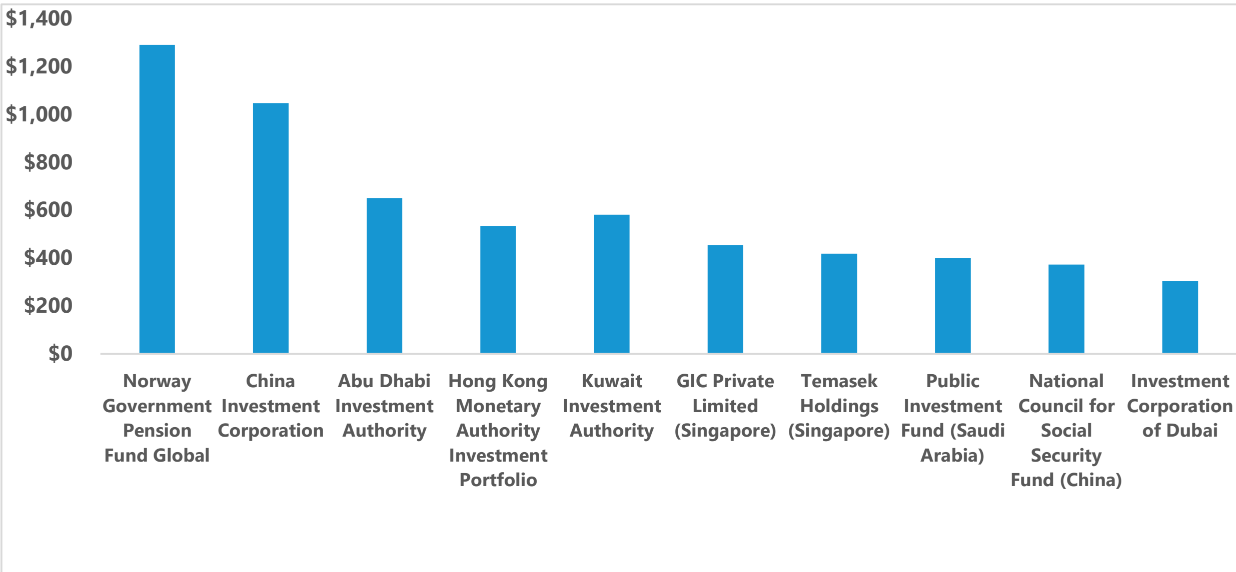
China's current agency MBS holdings of $232.2billion comprise 7.2 percent of its $3.2 trillion in foreign exchange reserves. Japan's $306 billion comprise 23.3 percent of its $1.3 trillion in forex reserves, while South Korea's holdings comprise 8.0 percent of its reserves. This suggests all three have room to grow their official holdings. Taiwan and Europe have both invested a much larger portion of their forex reserves (50.5 percent and 44.8 percent respectively) in agency MBS, suggesting greater confidence in owning the securities.

At the other end of the spectrum are Switzerland and Saudi Arabia – two nations with significant forex reserves, $1.01 trillion and $441 billion respectively, but very little agency MBS, $8.7 billion and $2.4billion respectively, representing less than 1 percent of forex reserves for each. Note that Saudi Arabia's holdings increased by 75 percent in 2019 compared to June 2018, but dropped back down to 2018 levels in 2020, and arewell below the June 2016 level of $6.8 billion.

***Soverign Wealth Funds:** Soverign 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 TIC reporting. SWFs have witnessed a* *tremendous increase in assets under management in recent decades. Currently SWFs manage a total of $8.4trillion in assets globally[5] 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. As of June 30, 2020.*

A high level analysis of the biggest SWFs shows that their allocation to securitized mortgage products tends to be very small. The largest SWF in the world, Norway's Government Pension Fund currently invests a total of $335 billion in fixed income assets globally (representing 26% of its $1.289 trillion under management). Of this $335 billion, about $136 billion is invested in US fixed income assets, almost entirely in US treasuries and 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 $1.046 trillion[6] invests an even smaller share of its assets (17.7%) in fixed income investments globally. About 10.4% of this (i.e. 1.8% of total) 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[7].

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

Conclusion

Foreign entities are a stable and an important source of demand for agency mortgage-backed securities. Over the long run, the volume of agency MBS owned by foreign entities has grown at a faster rate than the volume of total

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[5] *https://www.swfinstitute.org/sovereign-wealth-fund-rankings/*
[6] http://www.china-inv.cn/chinainven/xhtml/Media/2019EN.pdf
[7] *http://www.sovereignwealthcenter.com/fund/1/Abu-Dhabi-Investment-Authority.html#.WbA-YrJ94_k*

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 slower growth in recent years, foreign ownership of agency MBS has grown because Japan and Taiwan, and to a lesser extent South Korea and Europe have all increased their presence, a trend that continued from 2019 to 2020. As a result, foreign-owned share of agency MBS outstanding has continued to rise steadily.

Disclosure

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