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The Distribution of Holdings of Long-term Securities

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Executive Summary

A question that has arisen in the context of evaluating the Federal Reserve's large-scale asset purchases is the distribution of holdings of long-term Treasury securities and agency mortgage-backed securities across investor types. A related question is who holds other types of fixed-income assets, such as corporate bonds, whose market value could be affected by changes in interest rates. The attached tables report estimates of the distribution of holdings by investor type, as of September 30, 2012. Note that identifying the distribution of holdings of each type of asset is not the same as identifying the distribution of interest-rate risk, because we are not able to observe the maturity distribution of specific holdings, characteristics such as leverage or the extent to which liabilities are subject to runs, or risk-mitigation strategies that different types of investors might employ. In addition, the available data on holdings by investor type or maturity is often sparse or inexact.

Sources of Data

In general, precise, comprehensive data about the domestic holders of these assets are not available. However, reasonable estimates of the distribution of domestic holdings can be made using the Flow of Funds Accounts. Reliable figures about the foreign holdings of these assets are available from the Treasury International Capital System.

The Flow of Funds Accounts provide quarterly estimates of the assets and liabilities of large sectors of the U.S. economy. Because limited data are available for households' asset holdings, most household sector estimates are calculated residually as the remainder of all outstanding assets after accounting for the holdings of the other sectors. As a result, any additional sector for which data are unavailable will also fall into the household sector in the Flow of Funds Accounts. Most notably, this includes nonprofit organizations, domestic hedge funds, and certain other privately held funds.

With some exceptions, the Flow of Funds Accounts generally do not break down holdings of fixed-income assets by maturity. Similarly, they do not distinguish the MBS issued by the GSEs from unsecured debt issued by the GSEs and other agencies. As a result, the figures shown in this memo for domestic holders in the following tables represent extrapolations made based on samples of data for which some of the more specific breakdowns are available.[2] As such, these tables should be interpreted cautiously as representing our best estimates given the limited available source data.

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[1] Divisions of Research and Statistics (Smith) and International Finance (Judson), with valuable contributions from Steven Friedman, Joshua Frost, and Nathaniel Wuerffel (FRBNY).

[2] An additional limitation with the estimates of domestic Treasury holdings is that in most cases, we are only able to break down holdings by *original* maturity and into very broad maturity buckets—for example, bills and notes or bonds—rather than by remaining maturity or into more detailed maturity buckets. In contrast, the holdings of foreign investors are available by remaining maturity and by more-detailed maturity buckets.

Table 1 reports estimates of the distribution of Treasury notes and bonds (that is, excluding Treasury bills), by type of holder. As shown in the first column, out of $9.5 trillion in outstanding Treasury notes and bonds at the end of the third quarter of 2012, about half were held by foreign investors, mostly sovereign investors.[3] Domestically, the largest holder is the Federal Reserve, which holds roughly double the amount of the next largest sector, which is the household sector (which also includes hedge funds and other private funds). Other relatively large domestic holders of Treasury notes and bonds are pension funds, long-term mutual funds, and insurance companies. U.S. banks have increased their holdings of Treasury securities recently, but still are not among the very largest holders in the United States.

Table 1: Estimated Sectoral Distribution of Treasury Notes and Bonds

As of end-September 2012, billions of dollars

	Value	Share
Total (including TIPS)	9,459	*100%*
Foreign	4,796	*51%*
Official	3,574	*38%*
Private	1,222	*13%*
Domestic	4,663	*49%*
Federal Reserve	1,645	*17%*
Households (and unmeasured sectors)*	848	*9%*
Pension funds	684	*7%*
Mutual funds (long-term)	387	*4%*
Insurance companies	236	*2%*
State and local governments	222	*2%*
Money market mutual funds	206	*2%*
U.S.-chartered depository institutions	175	*2%*
Brokers and dealers	143	*2%*
Other sectors	117	*1%*

* Note: The household sector is the residual sector in the Flow of Funds Accounts, and thus includes unmeasured sectors such as domestic hedge funds and nonprofits.

Sources: Staff estimates based on Flow of Funds Accounts of the United States and the Treasury International Capital (TIC) System.

[3] Official holdings are likely to be somewhat underreported in the TIC data (relative to private holdings) because holdings are only identifiable as official when they are held by domestic custodians. Official holdings held in private foreign institutions, which are reported by U.S. sub-custodians, appear as private foreign holdings in the TIC data.

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Table 2 reports estimates of agency MBS holdings, by type of holder. Foreign investors hold a smaller share of agency MBS (about 14 percent) than of Treasury notes and bonds (about 51 percent). Domestically, the largest holders of agency MBS are U.S. banks, followed by the Federal Reserve and long-term mutual funds. The GSEs have scaled back their MBS holdings quite a bit and are no longer among the very largest holders of MBS.

Table 2: Estimated Sectoral Distribution of Agency MBS

As of end-September 2012, billions of dollars

	Value	**Share**
Total (including ARMs)	5,530	*100%*
Foreign	748	*14%*
Official	366	*7%*
Private	383	*7%*
Domestic	4,782	*86%*
U.S.-chartered depository institutions	1,505	*27%*
Federal Reserve	835	*15%*
Mutual funds (long-term)	640	*12%*
Insurance companies	406	*7%*
GSEs	324	*6%*
Pension funds	298	*5%*
Mortgage REITs	294	*5%*
State and local governments	187	*3%*
Money market mutual funds	149	*3%*
Brokers and dealers	108	*2%*
Other sectors	35	*1%*

Sources: Staff estimates based on Flow of Funds Accounts of the United States and the TIC System.

Finally, a related question is who holds fixed-income assets such as corporate bonds, whose market value could be affected by changes in interest rates as a result of LSAPs. Table 3 reports the distribution of holdings of corporate bonds from the Flow of Funds Accounts.[4] Out of $12 trillion in outstanding corporate bonds at the end of the third quarter of 2012, about 20 percent were held abroad. The largest domestic holders are insurance companies, who hold about a quarter of the corporate bonds that are held in the U.S. Other large domestic holders include households and long-term mutual funds.

Table 3: Estimated Sectoral Distribution of Corporate Bonds

As of end-September 2012, billions of dollars

	Value	**Share**
Total	12,041	*100%*
Foreign	2,737	*23%*
Official	117	*1%*
Private	2,620	*22%*
Domestic	9,304	*77%*
Insurance companies	2,508	*21%*
Households (and unmeasured sectors)*	1,599	*13%*
Mutual funds (long-term)	1,702	*14%*
Funding corporations**	919	*8%*
Pension funds	775	*6%*
U.S.-chartered depository institutions	543	*5%*
Foreign banking offices in U.S.	224	*2%*
Government-sponsored enterprises	221	*2%*
Brokers and dealers	168	*1%*
Other sectors	644	*5%*

* Note: The household sector is the residual sector in the Flow of Funds Accounts, and thus includes unmeasured sectors such as domestic hedge funds and nonprofits.

**Funding corporations include funding subsidiaries of foreign financial firms, financial holding companies, and custodial accounts for reinvested collateral of securities lending operations.

Sources: Staff estimates based on Flow of Funds Accounts of the United States and the Treasury International Capital System.

[4] In the Flow of Funds Accounts, this category also includes bonds issued in the U.S. by foreign firms, and structured securities such as ABS and private-label MBS.