Box 2
The US dollar bias of US fixed-income funds

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This box documents the evolution of currency exposures in the portfolio of US-based investment and mutual bond funds with a global mandate through the lens of a commercial dataset (Lipper for Investment Management). This dataset provides detailed information on the assets under management, currency denomination and country allocation of a large number of investment funds globally. Non-bank financial intermediaries (NBFI) play an increasingly important role as a source of finance globally. They have grown at a faster pace than banks in recent years and accounted for almost half of total assets under management in the global financial system in 2019.[39] Among NBFI, fixed-income funds hold a large share of financial assets, which amounted to almost USD 12 trillion in 2019, of which around 40% was held by funds domiciled in the United States according to the Financial Stability Board.

[37] Banks were aware of the likelihood that these two sources of deposit funding were temporary, so there was no corresponding increase in lending (see Aldasoro, I., Huang, W. and Kemp, E., "Cross-border links between banks and non-bank financial institutions", *BIS Quarterly Review*, Bank for International Settlements, September 2020; Aldasoro, I., Eren, E. and Huang, W., "Dollar funding of non-US banks through Covid-19", *BIS Quarterly Review,* Bank for International Settlements, March 2021; Acharya, V. and Steffen, S., "The risk of being a fallen angel and the corporate dash for cash in the midst of Covid", *Review of Corporate Finance Studies*, Vol. 09:03, 2020.

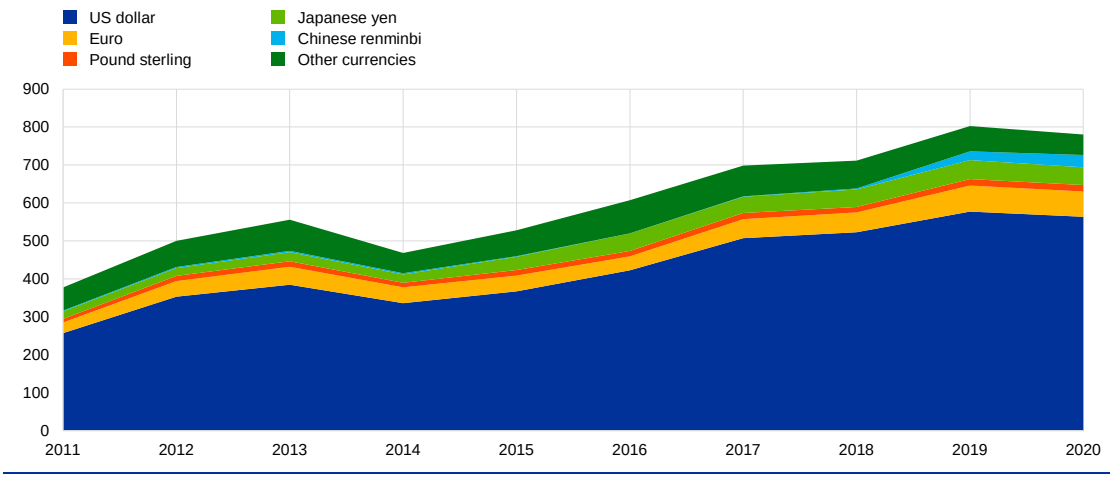
[38] Glancy, D., Gross, M. and Ionescu, F., "How did banks fund C&I drawdowns at the onset of the COVID-19 crisis?", *FEDS Notes*, Board of Governors of the Federal Reserve System, 31 July 2020.

[39] Financial Stability Board, "Global monitoring report on non-bank financial intermediation 2020", 2020.

The sample used in this box consists of an unbalanced panel of the top fixed-income funds domiciled in and active outside the United States. The reasons for focusing on US funds are as follows: (1) the greater availability of detailed data for US funds compared with funds located in other constituencies, (2) the systemic importance of US funds on a global scale, and (3) the fact that investors are subject to "home currency bias" – i.e. where they invest disproportionately in assets denominated in their own currencies, even when investing abroad, a phenomenon which is particularly strong for US investors according to recent research.[40] The panel comprises more than 200 firms with assets under management of USD 780 billion in 2020, which represents almost 9% of total debt securities held by US fixed-income funds, as reported by Lipper. This reflects the fact that only a small fraction of US bond funds are active internationally, whereas the majority of them invest domestically, in line with the well-documented home bias effect.[41] The total assets managed by this sample of funds have increased almost continuously over the past ten years and have almost doubled in value since 2011 (**Chart A**). The majority of the assets held by US fixed-income funds active globally are denominated in US dollars (over USD 560 billion in 2020). These funds also hold a significant amount of assets denominated in euro and Japanese yen. US funds hold significantly fewer assets denominated in pounds sterling and renminbi, although assets in renminbi increased rapidly between 2019 and 2020.[42]

Chart A

Total assets managed by top US fixed-income funds active globally doubled in the past ten years



Sources: Lipper for Investment Management and ECB calculations.

To a large extent, the currency portfolio of top US fixed-income funds active globally reflects their geographical allocation, which is strongly tilted towards US securities. Around half of the portfolio of these funds is allocated to securities issued in the United States. This share is significantly higher than the share of US debt securities in global debt securities, which is just under 40% according to statistics produced by the Bank for International Settlements (BIS). This suggests that, even for these

40 In contrast to US investors, investors from other countries invest both in assets denominated in domestic currency and in the US dollar (see Maggiori, M., Neiman, B. and Schreger, J., "International currencies and capital allocation", *Journal of Political Economy*, Volume 128(6), 2020, pp. 2019-2066.

41 Hau, H. and Rey, H., "Home bias at the fund level", *American Economic Review*, Volume 98(2), 2008, pp. 333-338.

42 Other currencies in the sample (not shown in the chart owing to their small shares) include the Australian dollar, the Brazilian real, the Canadian dollar, the Mexican peso and the Swiss franc.

US-based funds with a global mandate, "home bias" is strong. Moreover, the funds hold assets mainly denominated in US dollars, which account for around 70% of their portfolio allocation, a share much larger than that of debt securities issued by entities resident in the United States in their portfolios. This reveals the existence of a strong "home currency" bias on the part of US investors (right panel of **Chart B**).[43] This finding is in line with recent empirical evidence showing that funds invest disproportionately in bonds denominated in the currency of their own country.[44]

The left panel of **Chart B** shows changes in the portfolio allocation of the sample of funds by currency and country. The euro is the second largest currency of denomination of their assets, accounting for a share of 9% in 2020. However, this share is lower than the exposure of US funds to the euro area (i.e. 12%). It is also lower than the share of euro area debt securities in global debt markets (of around 18%). This implies that US-based fixed-income funds have a negative bias towards the euro and the euro area (right panel of **Chart B**). By contrast, they showed a positive currency bias towards the Japanese yen in 2020. This was possibly due to deviations in covered interest parity between the US dollar and the Japanese yen, which led to higher "hedged" returns compared with simple "cash" returns on Japanese bonds for US investors seeking to obtain synthetic exposure to the yen with foreign exchange swaps and other derivative contracts. Finally, the data indicate that the renminbi plays a growing role in the portfolio of the sample of US fixed-income funds, as suggested by their increasing, albeit still small, exposure to Chinese bonds – a trend that is probably supported by the inclusion of Chinese bonds in major global bond market benchmark indices (see the last column of the right panel of **Chart B**) and the small positive currency bias in 2020 (right panel of **Chart B**).[45] The fact that currency exposure to the renminbi is larger than country exposure to Chinese issuers most likely reflects the use by Chinese issuers of offshore subsidiaries located in offshore financial centres.[46]

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43 For the purpose of this box, "currency bias" is defined as the difference between the share of assets denominated in a particular currency and the share of securities in the total portfolio issued by residents of the economy issuing that particular currency.

44 See Maggiori, M., Neiman, B. and Schreger, J., "International currencies and capital allocation", op. cit.

45 For instance, Chinese renminbi-denominated government securities were included in the Bloomberg Barclays Global Aggregate Bond Index in April 2019.

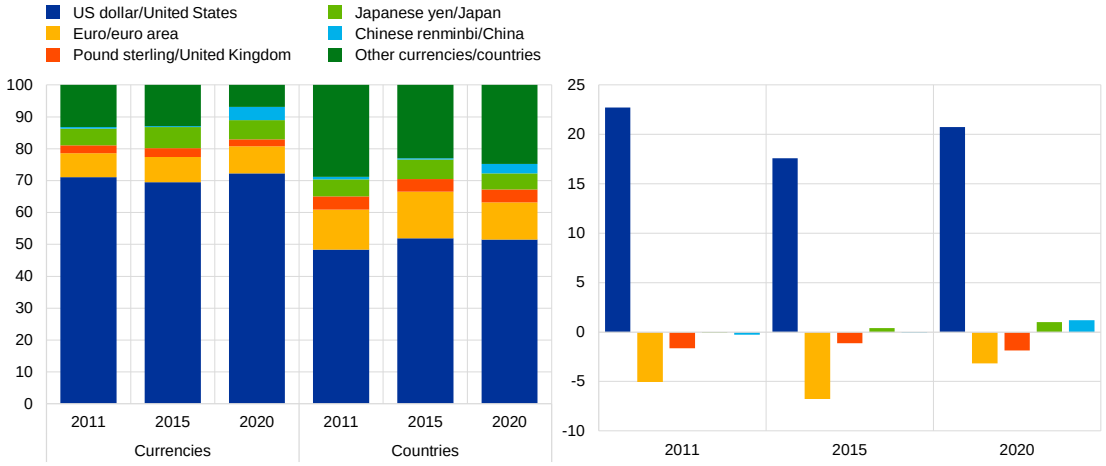
46 There is empirical evidence that portfolio investments by advanced economies in emerging market economies are much larger than stated in official statistics and national accounts, since companies in emerging market economies use offshore subsidiaries to issue international debt and have access to international equity. Recent research finds that, after accounting for the nationality rather than the residence of bond issuers, US bond investments into China were ten times larger than official estimates in 2017 (i.e. not only USD 4 billion, as per Treasury International Capital data, but USD 48 billion); see Coppola, A, Maggiori, M., Neiman, B. and Schreger, J., "Redrawing the map of global capital flows: the role of cross-border financing and tax havens," *NBER Working Paper*, No 26855, 2020.

Chart B

Top US-based fixed-income funds have a negative bias towards the euro

Evolution of the portfolio allocation of the sample of funds by currency and country (left panel); currency bias estimates (right panel)

(Left panel: percentages; right panel: percentage points)



Sources: Lipper for Investment Management and ECB calculations.
Note: Currency bias is defined as the difference between the share of assets denominated in a particular currency and the share of securities in the total portfolio issued by residents of the economy issuing that particular currency.

In conclusion, three main findings emerge from this analysis. First, US-based funds have a strong "home currency" (i.e. US dollar) bias, as they hold most of their assets in US dollar-denominated securities although not necessarily in the United States, confirming the findings of recent empirical studies. Second, the euro is the second largest currency held in the portfolio of the sample of US-based fixed-income funds, but these funds display a negative "portfolio bias" towards the euro area and a negative "currency bias" towards the euro. Finally, there is a positive currency bias towards the Japanese yen and the Chinese renminbi. This possibly reflects factors specific to those currencies, such as changes in incentives to gain synthetic exposure towards the yen or the emergence of a segment of China's domestic currency corporate bond market targeted at foreign investors via offshore financial centres.