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Bank Lending to Private Equity and Private Credit Funds: Insights from Regulatory Data

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John D. Levin and Antoine Malfroy-Camine[1]

February 5, 2025

1. Introduction

Assets in non-bank financial intermediaries (NBFIs) have grown markedly over the past decades. Indeed, NBFI assets now exceed $100 trillion, or 79 percent of aggregate financial system assets, up from 57 percent in 1980 (**Chart 1**).[2] One common narrative of this growth is that NBFIs are competing with, and capturing market share from, banks (see, generally, Darmouni and Siani (2021); Calabria (2023)). However, new research highlights that banks and NBFIs not only compete but also possess a complex web of interdependencies, serving as customers and lenders to one another (Acharya et al. (2023)).

Understanding the scale and complexity of bank-NBFI connections is important for identifying potential risks to financial stability – that is, the financial system's ability to continue supplying capital to the economy if strained by shocks (Rosengren (2011)). In this note, we use bank regulatory data to form a more comprehensive view of bank-NBFI linkages, focusing on private equity (PE) and private credit (PC) funds (PE/PC, collectively). We focus on these NBFI segments because they are large and growing (**Chart 2**), and their links to the banking system have garnered some policymakers' attention.[3]

Using bank regulatory data and a manual matching algorithm to identify less obvious PE/PC obligors, we estimate large banks' total loan commitments to PE/PC fund sponsors at the fund level are

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[2] Source: Financial Accounts of the U.S. Financial Accounts tables do not identify categories of asset owner as "NBFIs" per se. They provide the following categories we consider NBFIs: open-end and closed-end mutual funds, exchange-traded funds (ETFs), real estate investment trusts (REITs), money market funds (MMFs), pensions, government-sponsored enterprises (GSEs) and mortgage-backed securities pools, life insurance and property insurance companies, asset-backed securities (ABS) issuers, finance companies, holding companies, and funding corporations.

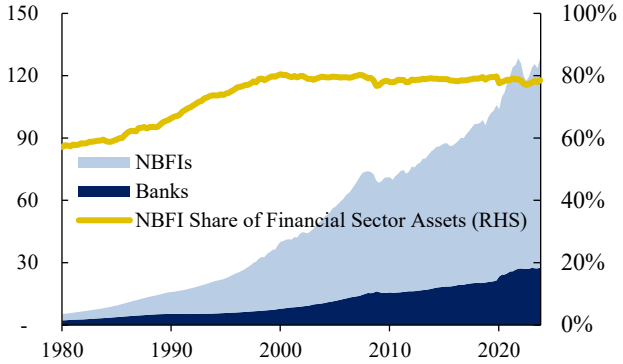
[3] See, for example, remarks on private credit and private equity by Federal Reserve Governor Lisa D. Cook on "The Current Assessment of Financial Stability," May 8, 2024; by Bank of England Executive Director of Financial Stability Strategy and Risk Nathanaël Benjamin on "not-so-private questions" about private equity and private credit, April 22, 2024; and by Acting Comptroller of the Currency Michael J. Hsu on "Preventing the Next Great Blurring," February 21, 2024.

approximately $300 billion, or 14 percent of large banks' total lending to NBFIs, as of 2023. This compares with a level below $10 billion (or about 1 percent) in 2013. Furthermore, a small number of PE/PC fund sponsors are responsible for a large share of those loans.

The rest of this note proceeds as follows: Section 2 provides background on the PE/PC industry and potential risks arising from bank lending to PE/PC funds, Section 3 explains our data and methodology, Section 4 presents our estimates of the magnitude of bank loans to the PE/PC industry, and Section 5 concludes.

Chart 1: NBFI Share of Fin. Sector Assets

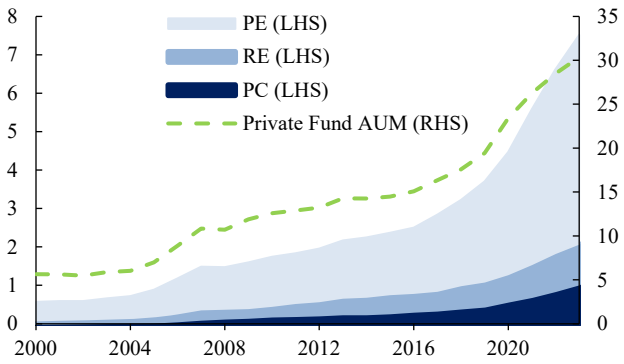
USD Trillions (LHS), Percent (RHS)



Source: Financial Accounts of the US
Note: NBFI = non-bank financial intermediary

Chart 2: Private Funds Assets

USD Trillions (LHS), Percent of U.S. GDP (RHS)



Sources: Preqin, Financial Accounts of the U.S.
Note: PE = private equity, PC = private credit, RE = real estate fund, AUM = assets under management

2. Background

2.1 *Overview of PE/PC funds.*

Broadly speaking, PE funds typically invest in the equity of private firms (including taking public firms private) while PC funds lend directly to similar firms. In addition to direct lenders, other PC fund types specialize in different varieties of credit, such as mezzanine financing, real estate loans, and distressed debt.[4] Each type of PC fund can be sponsored by the same asset managers as PE funds and can have similar

[4] Private funds can have flexibility to invest across assets that do not break down cleanly across strategy classifications. For example, somewhat counterintuitively, there are private funds that can lend directly and also purchase secondary market debt, or even hold a combination of debt and equity.

customers to PE funds.[5] Their business models also intersect in that PC funds often lend to companies undergoing PE-led leveraged buyouts.

Research on the financial stability implications of PE funds have focused on PE funds' contribution to overall leverage in the economy, and less on bank run-type dynamics.[6] For example, Axelson et al. (2013) find that PE funds may overpay for portfolio companies and, thus, over-lever them. However, Haque (2022) provides a contrasting model to argue that the higher leverage of PE-owned firms might, in fact, be optimal. Even if the debt incurred by PE-sponsored firms might not be excessive, it might contribute to the growing role of NBFIs in the financial system. For example, Haque, Mayer, and Wang (2024) find that PE funds may increase the share of corporate debt held by NBFIs because PE-sponsored firms have a higher share of their loans distributed to other NBFIs.

PC funds may provide credit to firms that cannot borrow from banks (Cai and Haque, (2024)). Moreover, Haque, Mayer, and Stefanescu (2024) study firms that simultaneously have both bank and PC loans. They find that when such firms are hit by shocks, they tend to draw down their bank lines of credit at a faster rate than firms with only bank credit. This creates a channel through which PC funds may increase banks' credit and liquidity risks, on balance. So, it is important to understand the array of interactions between banks and PE/PC funds.

2.2 Bank loans to PE/PC funds.

Prior research on bank-PE/PC linkages has focused on transactions that blur the boundaries between banks and PE/PC funds. Examples include PE funds buying banks or banks launching their own

[5] Institutional investors in PE and PC funds serve as limited partners to the fund. These investors are generally pensions, endowments, sovereign wealth funds, and high-net-worth individuals.

[6] As noted in the Federal Reserve Financial Stability Report (November 2024), susceptibility to runs occurs when vehicles permit investors to redeem on a daily basis. Runnable vehicles include open-end leveraged loan mutual funds (which, like PC funds, hold relatively illiquid non-investment grade loans, see Anadu & Cai (2019)). In contrast, PE and PC funds offer limited redemption provisions that better align the illiquidity of assets and liabilities, resulting in a structure that is not prone to runs. This point is echoed in the Financial Stability Board Global Monitoring Report on Non-Bank Financial Intermediation (2023).

PE and PC funds.[7] Additionally, there is growing interest from global policymakers in further examining bank-PE/PC linkages, specifically, banks' loans to the PE/PC funds themselves. For example, in its 2024 Annual Report, the U.S. Financial Stability Oversight Council (FSOC) noted that PC funds might be forced to draw on bank lines of credit when faced with credit needs from their own borrowers, and that this could worsen liquidity strains in a stressed market.[8] A May 2023 Federal Reserve Financial Stability Report also commented that PC funds are opaque, which makes it difficult to gauge default risk in PC portfolios.[9]

Beyond the U.S., in May 2024, the European Central Bank published a Special Feature within its Financial Stability Review noting that banks might face spillover risks from lending to PE and PC funds.[10] Furthermore, a United Kingdom Prudential Regulatory Authority (PRA) Thematic Review, in April 2024, identified multiple channels of exposure that banks may have to PE and PC funds, culminating in a "Dear Chief Risk Officer" letter to banks.[11] The PRA letter documented that banks could have loan, bond, or derivatives exposures to PE and PC fund portfolio companies *plus* loans to the funds themselves.[12]

At the fund level, the PRA pointed to capital call subscription facilities (that is, loans to a PE or PC fund secured by its limited partners' undrawn capital commitments to the fund) and net asset value (NAV) loans (that is, loans to the PE or PC fund secured by one or more of the fund's existing equity or debt assets). The letter cautioned banks to hold adequate capital in case future losses exceed historical

[7] See, Fang, Ivashina, & Lerner (2013) on banks sponsoring their own PE funds and DeYoung, Kowalik, and Torna (2018) on PE fund investments in bank equity. An additional link between PE and the rest of the financial system occurs via PE ownership of insurance companies, as described by Foley-Fischer, Heinrich, & Verani (2023).

[8] See, FSOC 2024 Annual Report, Box E, which notes "Notwithstanding the conservative risk management of bank credit facilities as described above, a large and sustained increase in private credit default rates stemming, for example, from a severe and/or sustained recession, could create financial instability through a number of channels that interact with each other. First, portfolio companies seeking liquidity to service their debt may tap the undrawn portion of their revolving credit facilities provided by direct lenders, which would then potentially draw on their own revolving facilities from banks, creating a dash for liquidity. At the same time, a sharp drop in private credit loan valuations, which are inherently not transparent and subject to uncertainty, could result in banks demanding margin calls from private credit funds and BDCs, which would further exacerbate liquidity pressures."

[9] May 2023 Federal Reserve Financial Stability Report section, "Financial Stability Risks from Private Credit Funds Appear Limited,"

[10] See, "Private markets, public risk? Financial stability implications of alternative funding sources," Cera et. al. in the European Central Bank Financial Stability Review, May 2024.

[11] Bank of England Prudential Regulatory Authority "Thematic review of private equity related financing activities" April, 2024.

[12] As to banks' potential motives for lending to PC funds, Chernenko et al. (2025) suggest banks may find lending to PC funds appealing because loans to PC funds can require less capital and lower supervision costs than do loans to middle market firms.

precedent.[13,14] The PRA argued that banks need a comprehensive view of potential correlations and concentrations among PE/PC counterparties, rather than a narrow analysis of individual loans in isolation.[15,16]

2.3 *Data on the PE/PC sector are limited.*

The limits of the PE/PC industry's public disclosures make it difficult to fully understand the scope and complexity of the bank-PE/PC linkages identified by the PRA and others.[17] The International Monetary Fund (IMF) recently used its Global Financial Stability Report to urge regulators to close data gaps needed to assess risks generated by PC.[18,19]

Exploring bank lending to the PE/PC sector fits into a broader body of research mapping bank lending to NBFIs.[20] The outstanding balances of large banks' loans to *all* NBFIs, including PE/PC funds, rose from around $300 billion in 2012 to above $1.2 trillion in late 2023, an increase from 5 percent of total

[13] Capital call subscription facilities can provide a PE or PC fund with liquidity to acquire an investment and may be used earlier in a fund's lifecycle. NAV loans might be used later in the fund's lifecycle when it holds more investments and most of its committed capital has already been drawn. See, "NAV and hybrid fund finance facilities," by Global Legal Insights – Fund Finance Laws and Regulations, NAV Finance 101: The Next Generation of Private Credit" by Oaktree Capital, and "The Advantages of Subscription Credit Facilities" by Kiel A. Bowen and Todd N. Bundrant of Mayer Brown.

[14] Historically, defaults on banks' loans to private equity/credit have been low and attributable to idiosyncratic incidents of fraud rather than systemic risks. See, Fitch "Subscription Finance: A Primer" February, 3, 2023. However, this does not mean a future wave of defaults by PE/PC borrowers could not occur.

[15] There is precedent for banks overlooking complex exposures to a NBFI counterparty. Although not a PE/PC firm, Archegos, a large hedge fund-like family office, defaulted in 2021, causing several banks to incur large losses. Losses stemmed, in part, from banks' failure to appreciate the breath and concentration of levered exposures Archegos had to other banks. In the aftermath of the Archegos default, banks' risk management weaknesses were documented by the Bank of England's Financial Conduct Authority in a "Dear CEO" letter on the "Supervisory review of global equity finance businesses," dated December 10, 2021.

[16] Although we focus on loans rather than deposits, correlations and concentrations among depositors poses risks too. As Federal Reserve Vice Chair Michael S. Barr's "Review of the Supervision and Regulation of Silicon Valley Bank" noted after that bank's collapse, the "run on deposits at SVB appears to have been fueled by social media and SVB's concentrated network of venture capital investors and technology firms that withdrew their deposits in a coordinated manner with unprecedented speed."

[17] In contrast to PE/PC funds, open-end mutual funds must report portfolio holdings in Securities and Exchange Commission (SEC) filings. A recent decision by the U.S. Court of Appeals for the Fifth Circuit limited the SEC's ability to require certain private funds to make additional fee-related disclosures. See, "Court Hands Private Equity, Hedge Funds a Win on SEC Fee Rules", The Wall Street Journal, by Peter Rudegeair and Matt Wirz, June 5, 2024.

[18] See, International Monetary Fund Global Financial Stability Report, April 16, 2024. p. 53.

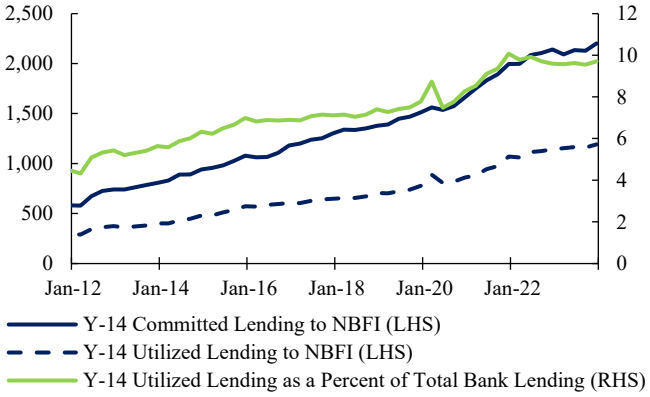
[19] To partially address data gaps, Call Reports will soon require bank to disclose total loans to PE funds and business credit intermediaries (which include PC funds) as of year-end 2024. See, FFIEC 031 Draft Reporting Form. The Federal Register publication announcing this new information collection noted the importance of bank lending to nondepository financial institutions (NDFI) and called for greater granularity as to the specific type of NDFI borrower, which include PE/PC funds.

[20] For research on bank lending to non-bank mortgage originators, see, Kim (2018), for mutual funds, see Cai & Shin (2021), for commercial real estate investment trusts (REITs), see, Acharya, Gopal, Jager, & Steffen (2024), and for business development companies (BDCs) – a subset of PC funds – see Fillat, Landoni, Levin, & Wang (2024) Supervisory Research and Analysis Note *Forthcoming*.

bank loans to 9 percent over that period (**Chart 3**). Large banks' total loan exposure to NBFIs is even larger once we consider undrawn loan commitments, which are not considered outstanding loan balances, but which, when drawn, deplete banks' liquidity and raise credit exposure.[21,22] Data on loan commitments are sourced from the FR Y-14Q bank regulatory filings for Q3 2023, which include loan-level data on banks that participated in 2024 stress tests.[23] For those banks, business loan commitments to NBFIs total $2.2 trillion, or 32 percent of those banks' total loan commitments.

Chart 3: Bank Lending to NBFIs

USD Billions (LHS), Percent of Total Bank Lending (RHS)



Sources: Y-14, Federal Reserve H.8; Line 9.
Note: NBFI = non-bank financial intermediary, Y-14 = regulatory data from FR Y-14

3. Methodology

3.1 *We conduct a detailed review of individual loans to identify loans to PE/PC funds and sponsors (borrowing at the fund rather than portfolio company level).*

We seek to estimate the extent of bank lending to PE/PC funds *at the fund level*, using data on individual loan commitments by large banks reported in FR Y-14 data. However, there is no simple and

[21] Channels through which credit line draws deplete banks' liquidity and increase credit exposure are described in Yankov (2020).
[22] We are focusing on bank loan exposure to NBFIs. Banks' aggregate exposure to NBFIs is even larger if exposures beyond lending are considered, such as trading, repurchase agreement, and derivatives exposures.
[23] The 2024 stress tests included 31 participating banks, which disclosed loan-level data for Q3 2023. See, Board of Governors of the Federal Reserve System: "2024 Stress Testing Results" June 2024.

unambiguous way to identify all PE/PC borrowers. To get around this limitation, we conduct a loan-level analysis of borrowers (over 50,000 loans for Q3 2023). This entails a combination of matching borrower names (allowing for some textual permutations) against a list of known PE and PC fund sponsors and a manual review to augment our results. When names do not match, we conduct manual searches for large borrowers and review regulatory filings, firms' websites, news articles, and other records to reveal instances in which a borrower is a PE or PC fund sponsor despite an obligor name that is not that of an identified PE or PC firm.[24] To provide a more comprehensive picture of banks' exposures to PE/PC sponsors, we classify a borrower as PE/PC if our manual review reveals it to be a fund sponsored by a major PE/PC market participant, even if the loan commitment might be to an entity borrowing on a PE/PC fund's behalf rather than the fund itself or to another kind of fund sponsored by a large PE/PC fund sponsor.[25] To focus on fund-level borrowings, we exclude loans to portfolio companies of PE or PC funds.[26]

3.2 *Even though individual obligors and loan terms differ, aggregating loans by ultimate PE/PC fund sponsor provides insights into bank-PE/PC lending, including borrower concentrations.*

Once we identify loans to PE/PC funds and related fund-level borrowers, we can estimate the fund-level loan commitments directed by PE/PC fund sponsors and concentrations. We acknowledge that even if a large PE/PC sponsor is responsible for billions of dollars in loan commitments across multiple obligors, the differences in individual obligors and repayment terms mean the lender does not face a single massive credit exposure to the ultimate parent entity.[27] However, aggregating across different borrowers serves two

[24] For an example drawn from public disclosures, Acharya, Cetorelli, & Tuckman 2023 describe how one large PC fund, the Blackstone Private Credit Fund, borrows via multiple entities with names like Bard Peak, Bear Peak and Castle Peak, among others. We search manually for analogous entities that borrow on behalf of other PE and PC fund sponsors.
[25] In the example above, Bard Peak and others are special purpose vehicles that borrow from banks and are consolidated subsidiaries of the PC fund. See, Blackstone Private Credit Fund Prospectus Supplement of November 2021.
[26] For example, we would exclude a portfolio firm acquired by a PE fund. To be sure, there are many more loans to companies owned by PE firms or to firms that borrow from both banks and PC firms, but those loans are not our focus. For a further discussion of the industry-level classification of fund-level loans to firms associated with PE/PC fund sponsors, see Appendix.
[27] Credit risk may be mitigated by the specific borrowing structures and collateral arrangements of loans to individual entities that are sponsored by large PE/PC firms, but are each ultimately repaid based on its specific loan terms.

purposes: 1) it enables us to observe the magnitude of borrowing by PE/PC fund sponsors, and 2) by mapping individual loans to their ultimate sponsor, we can note industry concentrations that could increase vulnerabilities stemming from the interconnectedness of those large institutions.

4. Findings

4.1 *A loan-level review reveals approximately $300 billion of loan commitments to the PE/PC industry at the fund-level as of 2023, or about 14 percent of large banks' total loan commitments to NBFIs, up from less than $10 billion, about 1 percent, in 2013.*

PE/PC fund sponsors are major bank borrowers at the fund level, with approximately $300 billion in total loan commitments, as of Q3 2023. This total includes not only loans for which a fund is the legal obligor, but also corporations that borrow on behalf of PE and PC funds, plus other vehicles sponsored by large PE/PC fund managers (hereinafter "PE/PC funds" for simplicity).[28] Furthermore, our estimates of total loan commitments to fund-level borrowers sponsored by PE/PC fund managers may be a lower bound because we are unable to identify every PE/PC fund borrower, and some PE/PC funds borrow from lenders not captured in the Y-14 dataset, like smaller banks, foreign banks, or even other NBFIs.[29]

The loans commitments we classified as borrowed by the PE/PC industry now constitute about 14 percent of total bank loan commitments to NBFIs, up from 5 percent of loan commitments to NBFIs just a few years ago (**Chart 4**). From the PE/PC funds' perspective, the total loan commitments from banks are

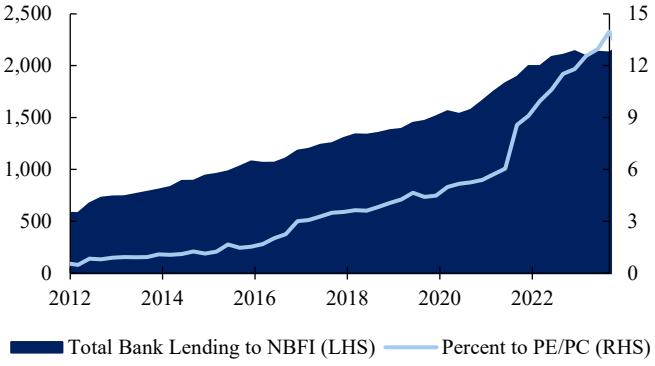
[28] As previously noted, this total includes opaque corporate entities traceable to a PE/PC sponsor but excludes portfolio companies of PE and PC funds.

[29] In the May 2023 Federal Reserve Financial Stability Report, a section entitled "Financial Stability Risks from Private Credit Funds Appear Limited," provides some evidence supporting our view that there may be significant additional lending to PE/PC funds by lenders not included in the FR Y-14Q data. That public report estimated about $200 billion in borrowings by PC funds, which is drawn from nonpublic data reported in Securities and Exchange Commission (SEC) Form PF and is higher than the previously noted $50 to $100 billion estimated by using FR Y-14Q data. One reason the estimated borrowings drawn from SEC Form PF are higher may be that they incorporate loans from a broader set of banks than only the stress-tested banks included in the FR Y-14 sample. However, even that higher estimate might be lower than the complete, unobservable, extent of borrowings by PE/PC funds. As that report's SEC Form PF methodology describes, it excludes borrowings by PE (rather than PC) funds and the SEC Form PF-derived estimate might not include committed but undrawn credit lines. Furthermore, that estimate may also omit borrowings by fund-level legal entities that are not, technically, funds themselves and thus might not have to file Form PF.

very small relative to total fund assets, but are growing rapidly, from below 0.2 percent in 2013 to 1.8 percent in 2023 (**Chart 5**). To be sure, this still implies that the PE/PC industry is much less levered than the banking industry, for which deposits (a form of debt) finance about 75 percent of assets.[30] However, growth of PE/PC funds' borrowings relative to PE/PC fund assets suggests the PE/PC industry may be increasing its usage of bank credit lines to fund its asset growth – a further sign that PE/PC funds benefit from relationships with banks.[31]

Chart 4: Bank Loan Commitments to PE/PC

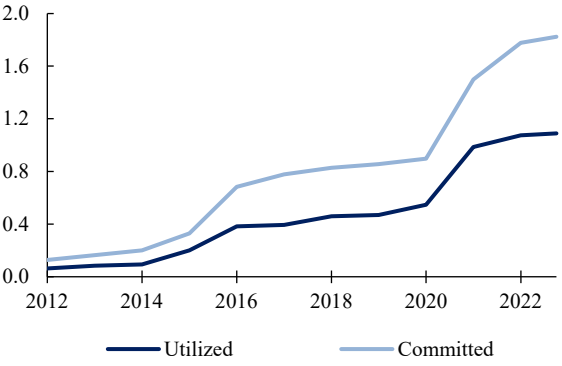
USD Billions (LHS), Percent (RHS)



Sources: Financial Accounts of the U.S.,
Note: Y-14 = regulatory data from FR Y-14.

Chart 5: Bank Lending to PE/PC

Percent of PE/PC AUM



Sources: Y-14, Preqin.
Note: Y-14 = regulatory data from FR Y-14.

4.2 *PE/PC fund-level borrowing is concentrated, and a few fund sponsors have hundreds of fund-level loans each, totaling about a third of aggregate loan commitments to the PE/PC industry.*

In total, we find roughly 2,500 loans to PE/PC fund-level entities, with loans borrowed by approximately 1,500 unique obligors.[32] We identify 100 of the largest PE and PC fund sponsors responsible

[30] Source: Data from Federal Reserve H.8, Table 3. Assets and Liabilities of Commercial Banks in the United States, not seasonally adjusted, per December 5, 2024 release. As of October 2024, Total deposits were $17.8 trillion, or 76 percent of total assets of $23.5 trillion.

[31] Note that this figure may represent an upper bound, Chart 5 uses assets of PE and PC funds but, banks lend to other fund-level entities beyond just PE and PC funds themselves. The assets of those intermediate vehicles are unknown.

[32] We use approximate numbers because we likely missed some loans to PE/PC funds, for example loans to smaller funds that we did not identify or loans whose connection to PE/PC sponsors were not evident in available public records we reviewed in our manual search. Conversely, we likely included certain loans we might have excluded if we had thorough documentation of borrower identities and characteristics, which are not available given the limited public information available about most

for the borrowing observed, but there are likely other smaller fund sponsors we were unable to identify, as we focused on larger loans and relied on rankings of large PE/PC fund sponsors. PE/PC sponsors' fund-level borrowing is concentrated, with five large PE/PC fund management companies responsible for roughly 1,000 individual loans, which account for about a third (about $100 billion) of total PE/PC loan commitments.[33] For a sense of scale, one large PE/PC fund sponsor can be linked to over 100 individual loans issued by dozens of obligors, which may not be surprising given there are a few PE/PC fund sponsors with a particularly diverse array of large and complex funds.

4.3 *PE/PC fund-level borrowers did not increase loan utilization markedly during Covid-19 crisis.*

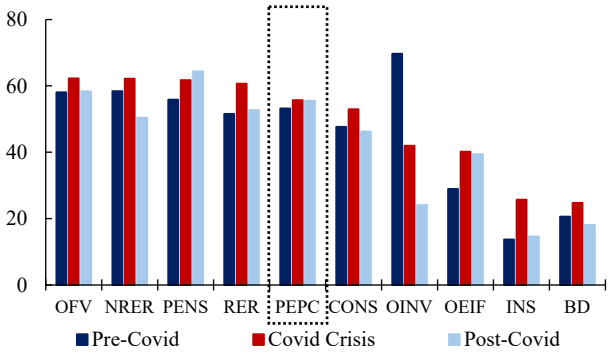
We examined the change in credit utilization of PE/PC funds and other NBFIs, pre, during, and post the Covid-19 pandemic. We find that PE/PC funds' loan utilization rate increased modestly, from Q4 2019 (pre-Covid period) to Q1 2020 (during-Covid period). In contrast, some non-PE/PC financial industry categories experienced larger changes in utilization behavior over the same period (**Chart 6**). Notwithstanding the slight uptick in PE/PC funds utilization during the pandemic, such borrowers' aggregate loan utilization rate has generally trended higher, from above 40 percent in 2012 to almost 60 percent in 2023 (**Chart 7**). This suggests that private funds' business models may be evolving to make greater use of leverage or liquidity generated through bank lines. Although the drivers of each loan draw are not known, this rising utilization rate could reflect greater willingness of PE/PC funds to source liquidity from banks as opposed to other means, like cash holdings, asset sales, or frequent calls of limited partners' committed investments.

obligors. However, we are confident we have flagged most loans to most major PE/PC sponsors and their funds, such that the approximate loan tallies and dollar totals are more important than precise point estimates.

[33] Although this concentration is high in absolute terms, it is approximately median across a range of other categories of NBFI.

Chart 6: PE/PC Credit Line Usage

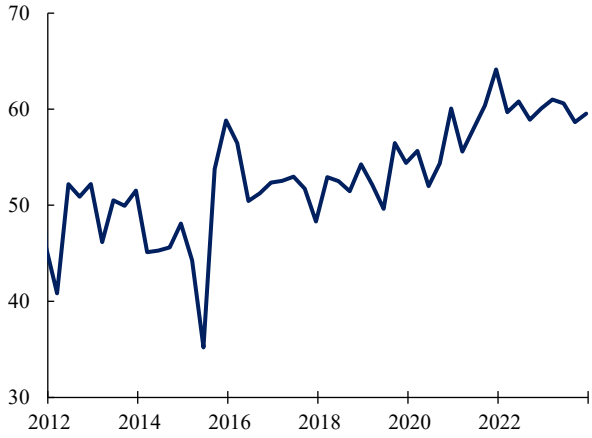
Utilized as a Percent of Committed



Source: Y-14.
Note: Pre and Post-COVID-19 periods are averages of the four quarters before and after 2020 Q1.
Y-14 = regulatory data from FR Y-14Y-14.
OFV: Other Financial Vehicles, **NRER**: Non-Real Estate Rentals, **PENS**: Pensions, **RER**: Real Estate Related, **PEPC**: Private Equity and Private Credit, **CONS**: Consumer Finance, **OINV**: Other Investment Pools and Funds, **OEIF**: Open-End Investment Funds, **INS**: Insurance Related, **BD**: Broker Dealers.

Chart 7: PE/PC Utilization Rates

PE/PC Percent of Committed Lending



Source: Y-14.
Note: Y-14 = regulatory data from FR Y-14Y-14.

5. Conclusion

5.1 *PE and PC funds play a large and growing role as asset owners and banks' borrowers.*

Policy makers, academics, and regulators are increasingly attuned to the implications of the growing linkages between banks and PE/PC funds. To provide some context to these linkages, we conducted a granular analysis of loan-level data to identify banks' exposures to PE and PC funds. We estimate the banks in our sample extend around $300 billion in loan commitments to PE and PC funds and other fund-level entities sponsored by those fund managers as of 2023. In total, these loan commitments represent about 14 percent of total loan commitments to NBFIs made by the largest U.S. banks (those subject to Federal Reserve stress tests), up from about 1 percent in 2013. As such, private funds may be growing more reliant on bank loans, both by taking larger loan commitments relative to fund assets and by utilizing a higher percentage of those loan commitments.

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Appendix:

Manual reclassification reveals the PE/PC industry is among the NBFI sectors with the most loan commitments; loans to PE/PC "hide" in non-obvious industry codes.

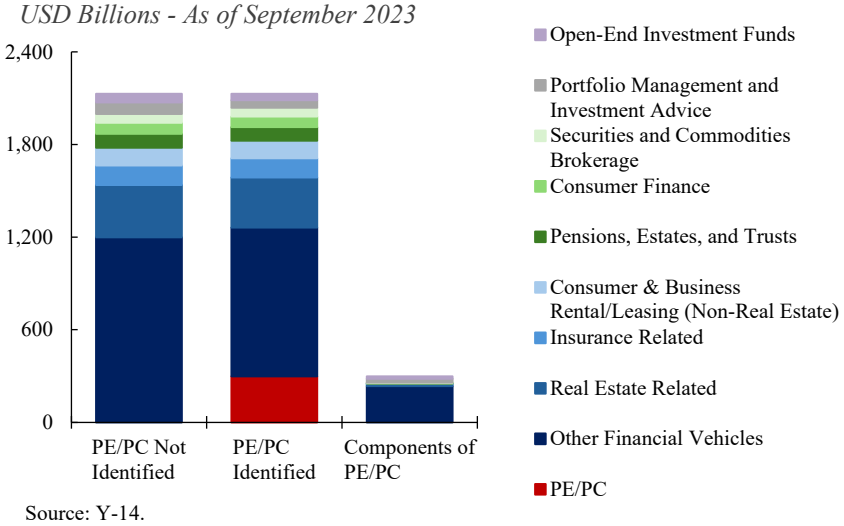
Although the Y-14 data classify a borrower's industry by North American Industry Classification System (NAICS) code, our manual review was necessary because PE and PC funds lack their own NAICS code.[34] The roughly $300 billion in loans to PE/PC funds we identified as of 2023 are spread across multiple industry classifications such that these loans are "hiding" in multiple loan categories, including some categories one might not expect to contain PE/PC funds. PE/PC funds are often classified as "Other Financial Vehicles" (OFV), a category that represents about half of all committed loan volume to NBFIs.[35] Overall, we located loan commitments to PE/PC borrowers within 30 different NAICS codes and grouped those into 10 broad categories of NBFI.[36] The OFV NAICS classification, ostensibly the likeliest candidate for PE/PC loans, contains approximately $230 billion in PE/PC fund-related loans and the remaining $70 billion in PE/PC loans are in less obvious industry codes, including "Open-End Investment Funds," "Securities and Commodities Brokers" and other categories.[37] We estimate that, as of Q3 2023, about 25 percent of loan commitment volume to "Open-End Investment Funds" are actually loans to funds sponsored by PE/PC market participants. Several other sectors also contain a smaller share of loans to the PE/PC industry. After we identify those loans, remove them from their original NAICS codes, and treat "PE/PC"

[34] A full database of NAICS codes is available at: https://www.census.gov/naics/. DeSalvo (2024) lists NBFI subcategories by NAICS code, which illustrates that there is no clearcut category isolating PE or PC funds.
[35] The true business model of each NBFI cannot always be discerned using Y-14 data.
[36] This industry classification is similar to the breakdown of NBFI subcategories in the Federal Reserve Financial Stability Report, April 2024, Figure 3.15. Chart 7 illustrates loans by their reported industry categories in the "PE/PC Not Identified" column. The "PE/PC Identified" column shows loans after PE/PC loans are removed from their original industry categories and reclassified as the "PE/PC" category. The "Components of PE/PC" column shows the makeup PE/PC by original loan classifications.
[37] As an example of the difficulty classifying borrowings via consistent NAICS codes, a real estate investment trust (REIT) sponsored by a private equity firm may be classified, appropriately, as a REIT, but a private equity fund may be classified inconsistently. To provide a comprehensive picture of banks' exposures to PE/PC sponsors, we classify a borrower as "PE/PC" for purposes of this industry-level analysis if our manual review reveals it to be a fund sponsored by a PE/PC sponsor.

as a standalone industry, PE/PC funds are the NBFI sector that obtains the third most bank loan commitments, trailing only the real estate sector and the remainder of OFV not comprised of PE/PC (**Chart 8**).

Chart 8: Y-14 Committed Bank Lending to NBFI

USD Billions - As of September 2023



Source: Y-14.