S&P Global Ratings

Research

Presale:

HPEFS Equipment Trust 2024-1

January 18, 2024

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Preliminary ratings

Class	Preliminary rating	Type	Interest rate (i)	Preliminary amount (mil. $)	Legal final maturity date
A-1	A-1+ (sf)	Senior	Fixed	200.0	Jan. 21, 2025
A-2	AAA (sf)	Senior	Fixed	200.9	May 20, 2031
A-3	AAA (sf)	Senior	Fixed	185.9	May 20, 2031
B	AA (sf)	Subordinate	Fixed	39.4	May 20, 2031
C	A (sf)	Subordinate	Fixed	70.7	May 20, 2031
D	BBB (sf)	Subordinate	Fixed	93.1	Nov. 20, 2031

Note: This presale report is based on information as of Jan. 18, 2024. The ratings shown are preliminary. This report does not constitute a recommendation to buy, hold, or sell securities. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. (i)The interest rate for each class will be determined on the pricing date.

Profile

Expected closing date	Jan. 31, 2024.
Collateral	Equipment leases and loans.
Originator, servicer, seller, and sponsor	Hewlett-Packard Financial Services Co.
Depositor	HPE Depositor LLC.
Issuer	HPEFS Equipment Trust 2024-1.
Indenture trustee	U.S. Bank Trust Co. N.A.
Owner trustee	Citibank N.A.
Lead underwriter	BofA Securities Inc.

Credit enhancement summary (%)(i)

	HPEFS Equipment Trust 2024-1			HPEFS Equipment Trust 2023-2			HPEFS Equipment Trust 2023-1		
	Initial(ii)	Target(iii)	Floor(ii)	Initial(ii)	Target(iii)	Floor(ii)	Initial(ii)	Target(iii)	Floor(ii)
Class A									
Subordination	22.70	N/A	22.70	23.75	N/A	23.75	21.45	N/A	21.45

Credit enhancement summary (%)(i) (cont.)

	HPEFS Equipment Trust 2024-1			HPEFS Equipment Trust 2023-2			HPEFS Equipment Trust 2023-1		
	Initial(ii)	Target(iii)	Floor(ii)	Initial(ii)	Target(iii)	Floor(ii)	Initial(ii)	Target(iii)	Floor(ii)
Overcollateralization	11.75	15.25	11.75	12.70	16.20	12.70	7.40	10.30	7.40
Reserve account	1.00	N/A	1.00	1.00	N/A	1.00	1.00	N/A	1.00
Total	35.45	15.25	35.45	37.45	16.20	37.45	29.85	10.30	29.85
Class B									
Subordination	18.30	N/A	18.30	19.40	N/A	19.40	16.70	N/A	16.70
Overcollateralization	11.75	15.25	11.75	12.70	16.20	12.70	7.40	10.30	7.40
Reserve account	1.00	N/A	1.00	1.00	N/A	1.00	1.00	N/A	1.00
Total	31.05	15.25	31.05	33.10	16.20	33.10	25.10	10.30	25.10
Class C									
Subordination	10.40	N/A	10.40	10.00	N/A	10.00	10.85	N/A	10.85
Overcollateralization	11.75	15.25	11.75	12.70	16.20	12.70	7.40	10.30	7.40
Reserve account	1.00	N/A	1.00	1.00	N/A	1.00	1.00	N/A	1.00
Total	23.15	15.25	23.15	23.70	16.20	23.70	19.25	10.30	19.25
Class D									
Overcollateralization	11.75	15.25	11.75	12.70	16.20	12.70	7.40	10.30	7.40
Reserve account	1.00	N/A	1.00	1.00	N/A	1.00	1.00	N/A	1.00
Total	12.75	15.25	12.75	13.70	16.20	13.70	8.40	10.30	8.40

(i)Excludes the excess spread credit enhancement, which is estimated (unstressed) at 1.76% (before pricing) for 2024-1, 1.44 (after pricing) per year for 2023-2, and 1.56% (after pricing) per year for HPEFS series 2023-1. (ii)Percentage of the initial receivables balance. (iii)Percentage of the current receivables balance. N/A--Not applicable.

Rationale

The preliminary ratings assigned to HPEFS Equipment Trust 2024-1's (HPEFS 2024-1's) asset-backed notes reflect our view of:

- The availability of 35.45%, 31.05%, 23.15%, and 12.75% initial hard credit support for the class A (collectively, classes A-1, A-2, and A-3), B, C, and D notes, respectively. The hard credit support includes a cash reserve that is funded at closing, equal to 1.00% of the initial discounted contract balance, which is subject to a floor of the same amount.
- The availability of approximately 1.76% annual excess spread (unstressed estimate).
- An overcollateralization target mechanism (a target level of 15.25% of the current discounted contract balance and an initial and floor overcollateralization of 11.75% and 11.75%, respectively, of the initial discounted contract balance) that minimizes the release of credit enhancement to the seller in our stressed cash flow modeling scenarios.
- Our expectation for the timely payment of periodic interest and principal by the final maturity date according to the transaction documents based on stressed cash flow modeling scenarios using assumptions consistent with the assigned preliminary ratings.

- The pool's collateral characteristics, including the relatively short weighted average original term (approximately 46 months), the weighted average seasoning of approximately eight months, that seven of the top obligor concentrations (including service provider obligors associated with embedded leases) each exceed 1.50%, the high concentration of high-credit-quality corporate and public entities, and the low concentration of Hewlett-Packard Financial Services Co.'s (HPEFS') small-business segment (approximately 7.70%).
- The credit enhancement coverage that is in line with our credit stability criteria. Under a moderate stress scenario (the stress for 'BBB'), calculated as the net loss (assuming a moderate stress recovery rate), we do not expect, all else being equal, the ratings on the notes to decline by more than the number of rating categories that is consistent with our credit stability criteria.
- The servicer's status as a wholly owned subsidiary of Hewlett Packard Enterprise Co. (HPE; BBB/Negative/A-2) with experience in providing technology equipment financing.
- Our outlook for the credit quality of the commercial entities that represent the obligors in the pool, which is generally strong and stable.
- The transaction's legal structure.

Environmental, Social, And Governance

Our rating analysis considers a transaction's potential exposure to environmental, social, and governance (ESG) credit factors. In our view, the transaction has material exposure to environmental and social credit factors. Environmental risks arise from the excessive water required for the production of hardware and the wastewater generated in the production process. As water becomes scarcer around the globe, the robust management of water usage is key to avoiding higher supply costs and the potential loss of access to water-scarce areas. Wastewater generated from the production process puts hardware technology companies at higher risk of regulatory fines. Social risks arise from the high scrutiny and criticism over human capital management. Improving working conditions and labor relations can help increase productivity and avoid production disruptions and work stoppages, which could affect sales volumes and revenues.

While these environmental and social risks could negatively impact HPE's profitability and long-term business viability, we believe that our current approach adequately assesses the operational risk of its wholly owned subsidiary, HPEFS, as servicer over the relatively short expected life of the transaction. As a result, we have not separately identified this as a material ESG credit factor in our analysis.

Changes From Series 2023-2

Credit enhancement

- Initial hard enhancement for classes A, B, C, and D decreased to 35.45%, 31.05%, 23.15%, and 12.75% from 37.45%, 33.10%, 23.70%, and 13.70%, respectively. Subordination for class A and B decreased to 22.70% and 18.30% from 23.75% and 19.40%, respectively, and increased to 10.40% from 10.00% for class C.
- The overcollateralization target (a percentage of the current discounted contract balance)

decreased to 15.25% from 16.20%. The initial and floor (a percentage of the initial discounted contract balance) overcollateralization each decreased to 11.75% from 12.70%.

- Excess spread is estimated at 1.76% (pre-pricing), compared to 1.44% for 2023-2 post-pricing (see the Credit enhancement summary table).

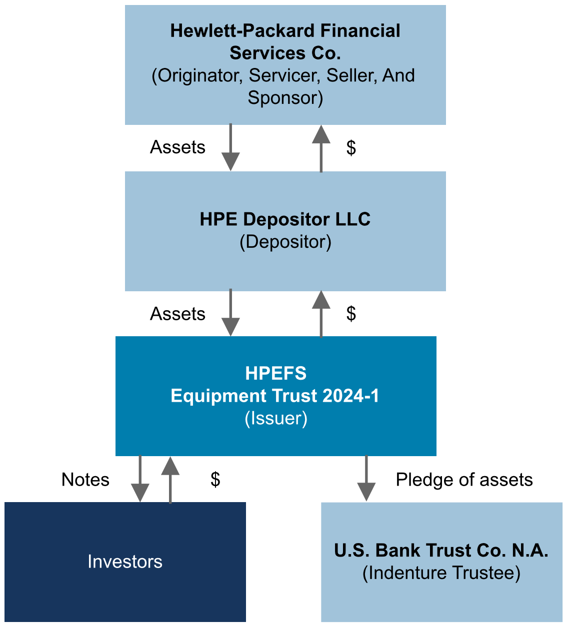
Collateral composition

- The top-five obligor concentrations are lower at 51.87% than 2023-2's 54.36%. We accounted for the obligors' concentration in our stressed loss levels by defaulting the largest obligor concentrations after considering the notes' rating category, as well as the obligor's credit profile.
- The discounted residual value as a percentage of the discounted contract balance decreased to 9.31% from 9.68%.
- The weighted average seasoning decreased to 8.32 months from 8.93 months.
- The top five states account for 57.89% of the portfolio, compared to 59.85%.
- The small business concentration, which we account for in our forward-looking cumulative gross flow loss, increased to 7.70% from 6.40%.

Transaction Overview

HPEFS 2024-1 is the 11th equipment ABS transaction sponsored by HPEFS, the captive finance unit and wholly owned subsidiary of HPE. The transaction is structured as a true sale of the contracts and related equipment to HPE Depositor LLC, a limited liability company that is consistent with our special-purpose entity criteria. HPE Depositor LLC will then sell the collateral to the issuer, which will pledge a security interest to the indenture trustee (see chart 1).

Transaction structure



In rating this transaction, we will review the legal matters we believe are relevant to our analysis, as outlined in our criteria.

Transaction Structure

The HPEFS 2024-1 note issuance will total $790 million. The collateral includes scheduled payments on equipment leases and loans, as well as recovery and residual proceeds on the associated equipment. The transaction provides credit protection for the noteholders by incorporating certain structural features:

- A sequential-pay structure in which the subordinated notes will not receive principal distributions until the senior notes have been paid in full.
- Overcollateralization at an initial level and ultimate floor level of 11.75% of the initial discounted contract balance and a target level of 15.25% of the current discounted contract balance. In our cash flow analysis, the overcollateralization is expected to reach its target level, assuming a zero-loss and zero-prepayment scenario, by month six.
- A nonamortizing reserve account funded with an initial deposit of 1.00% of the initial discounted contract balance. If funds in the collection account are insufficient, the reserve account will be available to pay monthly interest and priority principal distribution amounts and to repay any outstanding rated notes' remaining balances on their stated maturity dates.
- A reprioritization feature that pays senior note principal ahead of the subordinated notes' interest when the outstanding senior notes' principal exceeds the pool balance. This reprioritization feature results in higher break-even levels when we apply stress assumptions, but we expect timely payment of subordinated note interest in stress scenarios consistent with

each subordinate rating category.

- A note redemption feature where, if the sum of the reserve account and the available amounts is at least equal to the note balance, interest, and fees, the note balance will be reduced to zero and all fees and interest paid.

Payment Structure

Payment distributions will be made from the available funds in the payment priority in table 1.

Table 1

Payment waterfall

Priority	Payment
1	To the indenture and owner trustees, annual fees of $7,500 each, and expenses and indemnities capped at $200,000 for the indenture trustee and $75,000 annually for the owner trustee.
2	Servicing fee (1.00% per year).
3	Administration fee ($2,000 per year).
4	Surveillance fee capped at $45,000 annually.
5	Class A accrued and unpaid interest, pro rata.
6	Reduce the class A note principal, based on the principal payment priority (sequential pay), by an amount equal to the excess of the class A outstanding amount over the pool balance (reprioritization).
7	Class B accrued and unpaid interest.
8	Reduce the class A and B note principal, based on the principal payment priority (sequential pay), by an amount equal to the excess of the class A and B outstanding amounts over the pool balance (reprioritization).
9	Class C accrued and unpaid interest.
10	Reduce the class A, B, and C note principal, based on the principal payment priority (sequential pay), by an amount equal to the excess of the class A, B, and C outstanding amounts over the pool balance (reprioritization).
11	Class D accrued and unpaid interest.
12	Reduce all note principal, based on the principal payment priority (sequential pay), by an amount equal to the excess of the outstanding amount of all notes over the pool balance (reprioritization).
13	To the reserve account, as necessary to maintain the specified minimum balance.
14	Reduce all note principal, based on the principal payment priority (sequential pay), by an amount equal to the excess of the outstanding amount of all notes over the pool balance (aggregate discounted contract balance minus the target overcollateralization amount).
15	Remaining amounts due to the indenture and the owner trustees.
16	Remaining amounts due to the servicer and any other amounts required to be paid per the servicing agreement.
17	Remaining amounts to the certificate owners.

Class A--collectively, classes A-1, A-2, and A-3.

Managed Portfolio

HPEFS' U.S. managed portfolio can be generally characterized as stable. Losses have also been low since 2014, evidenced by HPEFS' stable underwriting and the strong credit quality of the company's obligors, which consist largely of investment-grade (rated 'BBB-' and above) commercial entities. Overall, performance continues to be strong (see table 2).

Table 2

HPEFS managed portfolio performance

	Fiscal year ended Oct. 31						
	2023	2022	2021	2020	2019	2018	2017
Receivables balance (mil. $)	4,523.61	4,648.71	4,549.16	4,872.70	4,566.14	4,856.03	4,959.86
Delinquency period (%)(i)							
31-60 days	0.11	0.13	0.13	0.16	0.27	0.22	0.20
61-90 days	0.04	0.06	0.05	0.05	0.04	0.04	0.06
Greater than 90 days	0.11	0.21	0.12	0.21	0.17	0.17	0.17
Total delinquencies	0.25	0.40	0.29	0.42	0.48	0.44	0.43
Average portfolio assets (mil. $)	4,566.30	4,522.41	4,371.10	4,460.50	4,569.98	4,786.56	5,000.31
Net credit loss during period (% of the average portfolio assets)	0.11	0.14	0.13	0.35	0.25	0.14	0.20

(i)Delinquencies are a percentage of the receivables balance (i.e., net investment value) as of the respective dates. HPEFS--HPE Financial Services Co.

HPEFS Series' Performance

We have outstanding ratings on seven HPEFS series issued between 2021 and 2023. We generally review outstanding series annually, and on July 21, 2023, we raised our ratings on 11 classes and affirmed the ratings on six classes from four series (see "Eleven Ratings Raised And Six Affirmed On Four HPEFS Equipment Trust Transactions"). These rating actions are consistent with the transactions' better-than-expected collateral performance to date and our expectations regarding their future collateral performance, credit enhancement, obligor concentrations, and residual balances.

Table 3

HPEFS Equipment Trust outstanding series(i)

	Current month	Pool factor (%)	Current CGL (%)	Current CNL (%)	Original expected lifetime CGL (%)(ii)	Revised expected lifetime CGL (%)(iii)
2021-1	33	13.27	0.30	0.10	1.65-1.85	Up to 0.80
2021-2	29	20.66	0.43	0.28	1.65-1.85	1.15-1.35
2022-1	22	39.20	0.29	0.16	1.55-1.75	1.30-1.50
2022-2	18	50.34	0.15	0.13	1.55-1.75	1.40-1.60
2022-3	14	62.98	0.27	0.18	1.55-1.75	N/A
2023-1	9	74.39	0.04	0.04	1.55-1.75	N/A
2023-2	3	91.07	0.00	0.00	1.55-1.75	N/A

(i)As of the December 2023 distribution date. (iii)Revised in July 2023. The CGL expectations--referred to as flow losses--do not include additional coverage of top obligor concentrations, an additive factor in our stressed loss analysis. The CGL expectations also do not include losses on residuals. CGL--Cumulative gross loss. CNL--Cumulative net loss. N/A–-Not applicable.

Pool Analysis

The HPEFS 2024-1 collateral pool consists of approximately 93% leases and 7% loans. The collateral pool has similar collateral characteristics and obligor creditworthiness as the managed portfolio. Both the leases and loans finance the purchase of technology equipment primarily manufactured by HPE and HP Inc. (HPI), though the pool does include a small percentage of non-Hewlett-Packard-manufactured equipment products. Table 3 shows a comparison of collateral characteristics for HPEFS' more recent transactions.

Table 4

HPEFS Equipment Trust pool characteristics(i)

	2024-1	2023-2	2023-1	2022-3	2022-2	2022-1	2021-2	2021-1
Pool cut-off date	Dec. 31. 2023	Aug. 31 2023	Jan. 31, 2023	Sept. 28, 2022	April 30, 2022	Dec. 31, 2021	May 31, 2021	Jan. 31, 2021
Aggregate discounted contract balance (mil. $)	895.19	701.02	780.00	779.23	846.56	1,086.37	785.34	1,074.99
No. of receivables	6,466	4,734	3,866	4,800	5,150	6,673	5,989	10,494
Avg. discounted contract balance ($)	138,447	148,081	201,760	162,339	164,380	162,800	131,130	102,438
Discounted residual value (% discounted contract balance)	9.31	9.68	10.69	10.27	8.42	9.07	9.81	11.31
Weighted avg. original term (mos.)	46.37	44.46	45.51	44.93	46.79	46.19	46.06	45.85
Weighted avg. remaining term (mos.)	38.05	35.53	37.54	39.14	38.19	37.70	35.14	32.97
Weighted avg. seasoning (mos.)	8.32	8.93	7.97	5.79	8.60	8.48	10.92	12.88
Receivable type (%)								
Finance lease	55.00	51.52	42.02	43.08	55.79	45.84	46.94	50.00
True lease	37.95	41.21	49.46	50.37	36.60	41.95	37.73	40.00
Loan	7.05	7.27	8.52	6.55	7.60	12.20	15.32	10.00
Contract type (%)								
Direct contract	59.82	58.94	70.57	71.94	77.27	78.60	80.40	71.56
Embedded lease	40.18	41.06	29.43	28.06	22.73	21.40	19.60	28.44
Segment (%)								
Rest of portfolio	87.90	89.59	87.78	86.90	88.17	87.00	82.91	85.20
Print business	4.40	4.02	5.86	4.35	3.46	5.90	6.95	5.27
Small business	7.70	6.40	6.37	8.74	8.38	7.10	10.14	9.52
Obligor (%)								
Obligor 1	27.45	27.56	14.05	11.86	10.26	10.61	8.27	12.46
Obligor 2	9.11	9.84	12.56	11.44	6.48	8.26	6.55	7.96
Obligor 3	6.31	7.95	6.28	8.25	6.10	5.72	5.50	5.80
Obligor 4	5.57	5.67	5.72	7.07	6.01	5.37	5.31	5.00

Table 4

HPEFS Equipment Trust pool characteristics(i) (cont.)

	2024-1	2023-2	2023-1	2022-3	2022-2	2022-1	2021-2	2021-1
Obligor 5	3.43	3.34	4.37	4.69	4.28	3.85	4.48	3.88
Total top five obligors	51.87	54.36	42.97	43.32	33.12	33.79	30.12	35.11
Obligor 6	3.41	2.81	3.05	4.63	3.96	3.72	2.22	3.06
Obligor 7	2.01	2.55	2.75	2.56	3.88	3.03	1.96	3.00
Obligor 8	1.49	1.33	2.73	2.07	3.63	2.41	1.95	1.46
Obligor 9	1.30	1.32	2.41	1.35	2.64	2.06	1.94	1.32
Obligor 10	1.16	1.31	1.25	1.32	2.41	2.05	1.88	1.25
Total top 10 obligors	61.23	63.69	55.17	55.24	49.63	47.07	40.07	45.20
State (%)								
	CA: 18.12	MD: 16.42	CA: 16.46	CA: 17.14	CA: 22.38	CA: 23.54	CA: 24.47	CA: 22.01
	NJ: 16.05	CA: 14.54	VA: 13.15	VA: 10.39	TX: 11.24	VA: 11.49	TX: 9.08	VA: 10.38
	VA: 8.90	NJ: 11.12	TX: 8.06	NC: 8.20	VA: 9.08	TX: 7.72	NC: 7.41	TX: 8.19
	MD: 8.87	NC: 9.20	NJ: 7.91	TX: 6.91	MD: 7.40	NC: 6.20	VA: 5.14	NY: 6.73
	NC: 5.95	VA: 8.57	MD: 6.17	NJ: 5.75	NC: 4.53	FL: 4.93	NY: 4.83	NJ: 6.60

(i)All percentages are of the aggregate discounted contract balance as of the cut-off date.

Embedded leases

The HPEFS 2024-1 pool consists of approximately 40.18% embedded leases. Under this type of contract, HPEFS enters into a net lease agreement with a service provider, which, in turn, enters into a service contract with an end user to deliver hardware and associated services (the net lease and service contract are collectively referred to as the embedded lease). The net leases are the contracts being securitized.

Each service provider is ultimately responsible for making payment on the net lease entered into with HPEFS. However, the service provider is not required to make payment under the net lease if there is an event of nonpayment by the end user due to an end user credit failure event. In such a scenario, HPEFS, as lessor, maintains rights and remedies similar to those it maintains in direct leases.

We have accounted for the credit exposure to the service providers and end users by incorporating each service provider's pool concentrations in the total stress loss for HPEFS 2024-1 (see the S&P Global Ratings' Rating Category Default Assumption section).

Obligor and segment concentrations

Seven obligors account for more than 1.50% each and about 57.29% collectively of the HPEFS 2024-1 collateral pool. This pool is less concentrated than the prior HPEFS series, with the top obligor accounting for 27.45% of the pool, compared to 27.56% in HPEFS 2023-2. The top obligors primarily represent service providers related to embedded leases. To capture this concentration, we apply our large-obligor default assumption to calculate our rating-category default assumption. The small-business segment concentration in the HPEFS 2024-1 collateral pool, at 7.70%, remains less than 10.00%, which is credit-positive because this is the highest loss segment.

Original term and seasoning

The weighted average original term of approximately 46 months for the HPEFS 2024-1 collateral pool is generally in line with previous series. The shorter term reflects the useful lives of the HPI and HPE technology assets, compared with the general-purpose equipment found in other diversified leasing pools.

The HPEFS 2024-1 pool is relatively seasoned (eight months). Although we consider this to be a strength because the exposure period for losses is shorter, we did not give explicit credit to seasoning in our expected loss for the collateral pool. We generally do not give explicit credit to seasoning unless we have detailed historical static pool data at varying pool factor levels that allow us to estimate the percentage of total losses that have occurred through a certain point in a pool's amortization. Also, for pools with generally elevated obligor concentrations, loss timing is more difficult to estimate because it is based more on obligor event risk rather than a flow level of losses (as with a highly diversified pool with low obligor concentrations).

Limited services and lease payment bundling

Unlike pools backing many other equipment ABS transactions, the HPEFS 2024-1 collateral pool does not include contracts that combine ongoing payments for services within lease contracts (i.e., the bundling of services). Bundling arrangements can introduce the possibility of performance risk and, ultimately, increased credit risk by lessees that attempt to withhold or offset their lease payments if their services are interrupted (an unwillingness, rather than an inability, to pay). The HPEFS 2024-1 collateral pool includes contracts that finance only completed services, but most of the pool represents the financing of equipment.

S&P Global Ratings' Rating Category Default Assumption

Our cumulative net loss assumption for each rating category represents the greater of our blended default assumption and the supplemental largest-obligor default test, reduced by our recovery assumption. For the HPEFS 2024-1 collateral pool, the blended default assumption is higher for all classes except class D. For class D, our supplemental largest-obligor default test was higher, which assumes a certain number of large obligor defaults by rating category, reduced by our recovery assumption.

Blended default assumption

We arrived at our blended default assumption for each rating category by combining our large obligor default assumption for individual obligors that have concentrations of more than 1.50% of the pool with our default assumption (flow-type losses). We assume the default of several top obligors and recoveries (stressed for each rating category).

Flow-loss range

To derive the gross flow-loss range, we reviewed static pool gross and net loss data from HPEFS' managed portfolio. The company provided historical credit performance data, which included the 2008-2009 recession. We used loss curves for each vintage to project gross losses for pools that had not fully amortized. The company also provided managed portfolio net loss data on an aggregate basis and segmented for its small business segment. We also considered outstanding series' performance.

Our loss for the small-business concentration in the pool is based on peer small-business managed pool vintage gross loss data. The remaining portion of the pool's expected gross loss was based on the historical performance data provided by HPEFS and the performance of outstanding series, which are performing better than our initial expectations. Taking into account our expected gross loss (weighted for small business and the remaining portion in the total pool), our resulting expected flow loss for the HPEFS 2024-1 collateral pool is 1.55%-1.75%, unchanged from 2023-2.

Stressed recovery rates

HPEFS provided aggregate historical recovery data on its U.S. managed portfolio from 2007 to 2021, which we used along with comparable peer recovery rate data to determine our assumptions for previously rated HPEFS series. We complemented our analysis with actual recovery rate data realized across six HPEFS series since 2019, broken out by HPEFS business segments (global, enterprise, or small business) that the contract resides within. This approach incorporates a detailed review of default, bankruptcy, affirmation, and recovery data across these business segments. Based on this analysis, we generally expect higher recoveries in the global and enterprise segments compared to small business.

Our stressed recovery rates use the historical recovery data from the business segments as a starting point, but we apply stresses to account for:

- Delays arising from a transition to a backup servicer in a stress scenario;
- A backup servicer having lower recovery rates; and
- Declines in overall secondary market values for equipment.

For HPEFS 2024-1, the stress level applied to recovery rates varied by rating category. Our stressed recovery rate range for the entire pool is 35%-55%.

Stresses to estimated residual realizations

Residuals are distinct from scheduled lease payments because they are not contractual amounts due. Realization rates reflect management skill at both setting realistic levels and then achieving them. Realizing residuals would likely be challenging in a servicer transition, which is a key reason we stress realized values.

Our stresses take the form of various discounts applied to assumed residual realization and include:

- Obligor default, in which case the lease would not expire. Therefore, realization proceeds from the equipment would primarily take the form of recoveries rather than residual realizations.
- Timing risk stemming from mismatches between the occurrence of losses and the flow of residual realizations that could be used to cover those losses.
- Manufacturer concentration risk, because the vast majority of the residual pool represents HPEFS equipment. Therefore, any issues related to the manufacturer could have an outsized

impact on residuals' realization rates. We also consider the fact that, generally, the servicer and the manufacturer of the equipment in this pool are the same entity and adjust our stresses accordingly.

After accounting for the obligor default risk on the residual pool, our credit to booked residual values in the pool is 60%-85%, reflecting the various haircuts to the estimated residual values with higher stresses applied at higher rating categories.

Total stressed loss levels

Table 5 shows the resulting stressed loss level ranges for each rating category, taking into account top obligor concentrations, the stressed recovery rate, stressed flow-loss level, and residual losses. The main driver of the stressed loss levels is the obligor concentrations that are additive to our stressed flow-loss levels.

Table 5

Stressed loss level ranges

Preliminary rating category	Stressed loss level range (%)
AAA	32-33
AA	28-29
A	20-21
BBB	13-14

Cash Flow Modeling Assumptions And Results

Various loss-timing curves

We reviewed cash flow scenarios that were subject to stress cases that we believe are commensurate with the assigned preliminary ratings. These scenarios included a range of loss-timing curves, stressed recovery rates, a lag between initial default and ultimate loss, and a stressed level of credit-to-booked residual values.

As in prior HPEFS transactions, we modeled a three-year front-loaded loss curve, along with a four-year back-loaded loss curve to simulate stress scenarios distinct from the expected timing developed from the static origination loss curves and series' performance to date. For series 2024-1 and 2023-2, to account for the higher event risk associated with the increase in the top obligor concentration, we modeled a more front-loaded loss curve of 50-30-20 (compared to 40-40-20 in series 2023-1). Notwithstanding the approximate 10% increase in the first-year defaults under this curve, the front-loaded curve remains over three years, which reflects the short weighted-average remaining term of approximately 38 months. We also incorporated a longer recovery lag of nine months (compared to six months in series 2023-1) to address increased liquidity risk associated with potential delays on realizing post-default recoveries for the top obligor.

Although we modeled various loss curves in our analysis, the timing of losses had relatively little effect on the break-even levels because most of the hard credit enhancement is non-amortizing and the overcollateralization is trapped as a result of the target and floor levels for the overcollateralization (see table 6).

Table 6

Cash flow assumptions and results

	Class A	Class B	Class C	Class D
Scenario (preliminary rating)	AAA (sf)	AA (sf)	A (sf)	BBB (sf)
Voluntary prepayments (%)	10	10	10	10
Recoveries (%)	38	41	48	55
Recovery lag (mos.)	9	9	9	9
Residual credit (%)	60	70	75	85
Cumulative net loss timing curve 1 (%)	50-30-20	50-30-20	50-30-20	50-30-20
Approximate break-even levels curve 1 (%)	33.56	28.88	20.96	13.12
Cumulative net loss timing curve 2 (%)	15-25-35-25	15-25-35-25	15-25-35-25	15-25-35-25
Approximate break-even levels curve 2 (%)	33.29	28.98	21.60	13.31

Prepayments

We also consider stress cash flow runs with a 10% constant prepayment rate (CPR) assumption due to a relatively low amount of historical data. In our view, this higher CPR assumption has a minimal impact on the break-even cash flow levels, and the coverage levels remain commensurate with the preliminary rating categories.

Cash flow output

Based on our cash flow analysis, we expect the notes to pay timely interest and ultimate principal and to withstand a net loss that is consistent with the assigned preliminary ratings.

Sensitivity Analysis

In addition to analyzing break-even cash flows, we conducted a sensitivity analysis that included running a moderate-stress scenario (the stress for 'BBB') to determine the loss coverage level and potential rating migration that could occur for the notes. We assume cumulative net losses of 13.16% in our moderate-stress scenario, which accounts for both several obligor defaults through our supplemental largest-obligor test and a moderate stressed recovery rate. Under this scenario, we compared each class's credit enhancement at month 12 to the total net stress for each applicable rating category to ensure sufficiency of coverage. We found that our preliminary 'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings on the class A, B, C, and D notes, respectively, are consistent with the tolerances outlined in our credit stability criteria (see "S&P Global Rating Definitions," published June 23, 2023).

Cross-Collateralization

An indeterminate portion of the equipment in the HPEFS 2024-1 pool is subject to certain cross-collateralization and cross-default provisions in other contracts with the same obligor that the HPEFS 2024-1 pool does not include. HPEFS has agreed to subordinate any claims that it may have by virtue of the cross-collateralization provisions in the equipment contracts backing the HPEFS 2024-1 notes. Furthermore, HPEFS has agreed that it will not sell any of its contracts that have cross-collateralization provisions unless the purchaser similarly agrees to subordinate any claim it has in the equipment financed by the HPEFS 2024-1 securitization.

HPEFS

HPEFS is a wholly owned subsidiary of HPE, maintains headquarters in Berkeley Heights, N.J., and has a global presence in 52 countries. HPEFS finances the purchase of HPE technology infrastructure, software, storage, and networking equipment for both small and large businesses. Under an operating agreement with HPI, HPEFS also provides financing to HPI's traditional computer and printing products. HPEFS also manages an asset management operation that remarkets off-lease and repossessed equipment and other assets. Generally, servicing and collections on key customer accounts are managed directly by HEPFS staff. Approximately 30% of collections of generally non-key customer accounts are outsourced to third parties.

On Jan. 9, 2024, S&P Global Ratings revised its rating outlook on HPE to negative from stable and affirmed its ratings on the company, including its 'BBB' issuer credit rating and 'A-2' short-term and commercial paper ratings. The revision to the outlook was prompted by the announcement that HPE entered into a definitive agreements to acquire Juniper Networks Inc. ('BBB/Stable') for approximately $14.0 billion in cash and $1.7 billion of assumed debt. The negative outlook reflects S&P Global Ratings view that HPE's pro forma adjusted leverage will exceed 2x at the close of the Juniper transaction and could remain elevated over the following two years while it integrates the acquisition and navigates an evolving hardware environment. The transaction is subject to Juniper shareholder and regulatory approvals and is expected to close in late 2024 or early 2025. While early, at this time there is no impact on the outstanding ratings. We will continue to speak with the company and monitor the transaction to determine what impact, if any, the acquisition may have on the outstanding ratings.

Related Criteria

- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Criteria | Structured Finance | General: Global Framework For Payment Structure And Cash Flow Analysis Of Structured Finance Securities, Dec. 22, 2020
- Criteria | Structured Finance | ABS: Global Equipment ABS Methodology And Assumptions, May 31, 2019
- Criteria | Structured Finance | Legal: U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria, May 15, 2019
- Criteria | Structured Finance | General: Counterparty Risk Framework: Methodology And Assumptions, March 8, 2019
- Criteria | Structured Finance | General: Incorporating Sovereign Risk In Rating Structured Finance Securities: Methodology And Assumptions, Jan. 30, 2019
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria | Structured Finance | General: Global Framework For Assessing Operational Risk In Structured Finance Transactions, Oct. 9, 2014

- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts, May 31, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- Criteria | Structured Finance | General: Methodology For Servicer Risk Assessment, May 28, 2009

Related Research

- Research Update: Hewlett Packard Enterprise Outlook Revised To Negative On Announced Juniper Networks Acquisition; 'BBB' Rating Affirmed, Jan. 9, 2024
- Credit Conditions North America Q1 2024: A Cluster Of Stresses, Nov. 28, 2023
- Economic Outlook U.S. Q1 2024: Cooling Off But Not Breaking, Nov. 28, 2023
- HP Inc., Nov. 15, 2023
- Hewlett Packard Enterprise Co., Sept. 18, 2023
- Eleven Ratings Raised And Six Affirmed On Four HPEFS Equipment Trust Transactions, July 21, 2023