# Table 1: Debt securities issued by euro area residents, by currency and original maturity [1]
(EUR billions; nominal values)

| | May 2019 | | June 2019 - May 2020 [4] | | | Apr. 2020 | | | | May 2020 | | | | Annual growth rates of outstanding amounts [5] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Amounts outstanding | Net issues | Gross issues | Redemptions | Net issues [3] | Amounts outstanding | Gross issues | Redemptions | Net issues [3] | Amounts outstanding | Gross issues | Redemptions | Net issues | 2018 | 2019 | 2019 Q2 | 2019 Q3 | 2019 Q4 | 2020 Q1 | 2019 Dec. | 2020 Jan. | 2020 Feb. | 2020 Mar. | 2020 Apr. | 2020 May |
| Total | 17,390.3 | 81.9 | 706.9 | 622.2 | 84.8 | 18,178.7 | 1,006.6 | 738.2 | 268.3 | 18,463.6 | 881.6 | 546.2 | 335.4 | 1.5 | 2.7 | 2.6 | 3.1 | 3.0 | 3.0 | 3.1 | 3.1 | 3.0 | 2.7 | 4.4 | 5.8 |
| of which in euro | 14,845.4 | 62.3 | 495.5 | 411.5 | 84.0 | 15,591.5 | 803.0 | 504.1 | 298.9 | 15,898.0 | 672.0 | 364.9 | 307.1 | 1.7 | 3.3 | 3.3 | 3.5 | 3.2 | 3.2 | 3.2 | 3.2 | 3.1 | 3.1 | 5.1 | 6.8 |
| in other currencies | 2,544.8 | 19.6 | 211.5 | 210.7 | 0.8 | 2,587.3 | 203.5 | 234.1 | -30.6 | 2,565.6 | 209.6 | 181.3 | 28.3 | 0.2 | -0.5 | -1.5 | 0.4 | 1.5 | 2.0 | 2.3 | 2.4 | 2.4 | 0.3 | 0.1 | 0.4 |
| Short-term | 1,340.7 | 20.4 | 435.0 | 415.4 | 19.6 | 1,474.5 | 549.8 | 454.5 | 95.3 | 1,590.4 | 542.9 | 419.0 | 124.0 | 0.2 | 1.8 | -0.2 | 3.2 | 4.9 | 4.8 | 4.1 | 5.0 | 6.4 | 1.6 | 9.9 | 17.3 |
| of which in euro | 919.1 | 2.4 | 264.5 | 247.9 | 16.6 | 1,019.4 | 380.6 | 274.6 | 105.9 | 1,127.7 | 375.6 | 267.2 | 108.5 | -1.8 | 3.6 | 3.6 | 4.5 | 2.2 | -0.5 | -1.4 | -1.0 | 0.7 | -1.1 | 10.1 | 21.5 |
| in other currencies | 421.6 | 18.0 | 170.5 | 167.5 | 2.9 | 455.1 | 169.3 | 179.9 | -10.6 | 462.7 | 167.3 | 151.8 | 15.5 | 4.6 | -2.1 | -7.9 | 0.3 | 10.8 | 16.7 | 16.7 | 18.5 | 19.6 | 7.7 | 9.5 | 8.4 |
| Long-term [2] | 16,049.5 | 61.5 | 272.0 | 206.8 | 65.2 | 16,704.2 | 456.8 | 283.8 | 173.0 | 16,873.2 | 338.7 | 127.3 | 211.4 | 1.6 | 2.8 | 2.8 | 3.0 | 2.8 | 2.8 | 3.0 | 2.9 | 2.8 | 2.7 | 3.9 | 4.9 |
| of which in euro | 13,926.3 | 59.9 | 231.0 | 163.6 | 67.3 | 14,572.1 | 422.5 | 229.5 | 193.0 | 14,770.3 | 296.3 | 97.7 | 198.6 | 2.0 | 3.3 | 3.2 | 3.5 | 3.3 | 3.4 | 3.5 | 3.5 | 3.3 | 3.4 | 4.8 | 5.8 |
| in other currencies | 2,123.3 | 1.6 | 41.0 | 43.1 | -2.1 | 2,132.1 | 34.3 | 54.3 | -20.0 | 2,102.9 | 42.3 | 29.5 | 12.8 | -0.7 | -0.1 | -0.1 | 0.4 | -0.3 | -0.7 | -0.3 | -0.7 | -0.7 | -1.2 | -1.7 | -1.2 |
| of which fixed rate | 12,276.0 | 55.5 | 192.6 | 132.0 | 60.6 | 12,897.2 | 361.2 | 190.9 | 170.3 | 13,043.7 | 251.9 | 72.8 | 179.1 | 2.8 | 3.6 | 3.4 | 3.9 | 3.5 | 3.4 | 3.6 | 3.4 | 3.3 | 3.3 | 4.9 | 5.9 |
| in euro | 10,702.4 | 55.2 | 164.3 | 100.7 | 63.6 | 11,329.5 | 339.2 | 146.5 | 192.7 | 11,497.6 | 218.9 | 50.5 | 168.3 | 3.4 | 4.2 | 4.1 | 4.6 | 4.2 | 4.1 | 4.3 | 4.2 | 3.9 | 4.2 | 6.1 | 7.1 |
| in other currencies | 1,573.6 | 0.3 | 28.3 | 31.3 | -3.0 | 1,567.7 | 22.0 | 44.4 | -22.3 | 1,546.2 | 33.0 | 22.3 | 10.8 | -1.2 | -1.1 | -1.2 | -0.4 | -0.9 | -1.3 | -0.5 | -1.4 | -1.2 | -2.3 | -2.9 | -2.3 |
| of which variable rate | 3,106.0 | -2.2 | 50.8 | 54.1 | -3.2 | 3,070.8 | 64.1 | 72.3 | -8.2 | 3,090.7 | 54.5 | 29.4 | 25.1 | -3.9 | -2.4 | -2.2 | -2.8 | -2.3 | -2.3 | -2.2 | -2.2 | -2.4 | -2.5 | -2.1 | -1.2 |
| in euro | 2,712.5 | 2.9 | 44.0 | 46.2 | -2.2 | 2,683.3 | 56.9 | 67.0 | -10.1 | 2,710.6 | 51.4 | 24.1 | 27.3 | -4.2 | -2.3 | -2.1 | -2.7 | -1.9 | -1.8 | -1.6 | -1.8 | -1.8 | -2.2 | -1.8 | -1.0 |
| in other currencies | 393.6 | -5.0 | 6.9 | 7.9 | -1.1 | 387.5 | 7.1 | 5.3 | 1.9 | 380.2 | 3.1 | 5.3 | -2.2 | -2.2 | -2.9 | -2.3 | -3.3 | -4.8 | -5.5 | -6.0 | -4.9 | -6.3 | -4.6 | -3.9 | -3.2 |

Source: ECB securities issues statistics.

1) "Short-term" debt securities comprise securities that have an original maturity of one year or less, even if they are issued under longer-term facilities. Debt securities with a longer original maturity, with optional maturity dates, the latest of which is more than one year away, the latest of which is more than one year away, or with indefinite maturity dates are classified as "long-term".

2) The residual difference between total long-term debt securities and fixed and variable rate long-term debt securities consists of zero coupon bonds and revaluation effects.

3) As a full breakdown of net issues into gross issues and redemptions may not always be available for the period before November 2016, the difference between aggregated gross issues and redemptions may deviate from the aggregated net issues.

4) Monthly averages of the transactions during this period.

5) Annual growth rates are based on financial transactions that occur when an institutional unit incurs or redeems liabilities. The annual growth rates therefore exclude the impact of reclassifications, revaluations, exchange rate variations and any other changes which do not arise from transactions.

## Table 2: Debt securities issued by euro area residents in all currencies, by issuing sector [1] and maturity [2]
(EUR billions; nominal values)

| | May 2019 Amounts outstanding | May 2019 Net issues | June 2019 - May 2020 [4] Gross issues | Redemptions | Net issues [3] | Apr. 2020 Amounts outstanding | Gross issues | Redemptions | Net issues [3] | May 2020 Amounts outstanding | Gross issues | Redemptions | Net issues | Annual growth rates of outstanding amounts [5] 2018 | 2019 | 2019 Q2 | 2019 Q3 | 2019 Q4 | 2020 Q1 | 2019 Dec. | 2020 Jan. | 2020 Feb. | 2020 Mar. | 2020 Apr. | 2020 May |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 17,390.3 | 81.9 | 706.9 | 622.2 | 84.8 | 18,178.7 | 1,006.6 | 738.2 | 268.3 | 18,463.6 | 881.6 | 546.2 | 335.4 | 1.5 | 2.7 | 2.6 | 3.1 | 3.0 | 3.0 | 3.1 | 3.1 | 3.0 | 2.7 | 4.4 | 5.8 |
| MFIs | 4,340.2 | 27.9 | 233.4 | 222.0 | 11.4 | 4,469.5 | 284.8 | 222.4 | 62.4 | 4,465.0 | 220.6 | 202.1 | 18.5 | 0.1 | 3.7 | 3.5 | 4.8 | 3.9 | 3.5 | 3.8 | 4.1 | 3.6 | 1.8 | 3.4 | 3.2 |
| Short-term | 573.0 | 12.3 | 161.7 | 166.0 | -4.3 | 526.7 | 150.0 | 172.6 | -22.6 | 520.4 | 162.2 | 162.6 | -0.4 | 2.9 | 5.1 | 3.9 | 9.5 | 7.7 | 7.2 | 7.7 | 9.4 | 10.2 | -3.3 | -6.8 | -8.9 |
| Long-term | 3,767.2 | 15.6 | 71.8 | 56.1 | 15.7 | 3,942.8 | 134.8 | 49.8 | 85.0 | 3,944.6 | 58.4 | 39.5 | 18.9 | -0.3 | 3.5 | 3.5 | 4.1 | 3.4 | 3.0 | 3.3 | 3.4 | 2.7 | 2.5 | 4.9 | 5.0 |
| of which | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed rate | 2,676.3 | 18.5 | 50.2 | 32.2 | 18.0 | 2,906.5 | 97.6 | 31.8 | 65.8 | 2,910.8 | 42.7 | 24.3 | 18.4 | 2.3 | 6.1 | 5.8 | 7.3 | 6.8 | 6.5 | 7.1 | 6.9 | 6.1 | 6.0 | 8.1 | 8.0 |
| Variable rate | 937.9 | -4.6 | 17.3 | 18.7 | -1.5 | 906.9 | 32.6 | 13.3 | 19.3 | 904.8 | 13.7 | 13.4 | 0.3 | -5.5 | -2.2 | -1.6 | -2.9 | -4.1 | -5.1 | -5.4 | -4.6 | -5.3 | -5.8 | -2.3 | -1.8 |
| Non-MFI corporations of which | 4,781.2 | 28.7 | 232.5 | 209.4 | 23.1 | 5,086.9 | 272.0 | 238.5 | 33.5 | 5,125.6 | 239.5 | 177.5 | 62.0 | 2.4 | 3.4 | 2.7 | 3.3 | 4.6 | 4.9 | 5.2 | 5.0 | 5.0 | 4.2 | 5.1 | 5.7 |
| Financial corporations other than MFIs | 3,383.9 | 24.1 | 157.2 | 145.9 | 11.3 | 3,597.6 | 154.0 | 173.7 | -19.7 | 3,590.7 | 129.4 | 118.5 | 11.0 | 1.4 | 2.9 | 2.2 | 2.7 | 4.3 | 4.6 | 5.0 | 4.7 | 4.6 | 4.2 | 4.4 | 4.0 |
| Short-term | 173.5 | 1.8 | 83.6 | 84.1 | -0.5 | 182.9 | 86.6 | 93.2 | -6.6 | 180.1 | 79.9 | 81.8 | -2.0 | 8.5 | 2.4 | -1.3 | 0.6 | 4.7 | 0.6 | 1.1 | 1.3 | 2.1 | -3.9 | -1.1 | -3.2 |
| Long-term | 3,210.5 | 22.3 | 73.6 | 61.8 | 11.7 | 3,414.6 | 67.3 | 80.5 | -13.2 | 3,410.6 | 49.6 | 36.7 | 12.9 | 1.0 | 2.9 | 2.4 | 2.8 | 4.2 | 4.8 | 5.2 | 4.8 | 4.7 | 4.6 | 4.7 | 4.4 |
| of which | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed rate | 1,791.1 | 17.4 | 39.8 | 31.0 | 8.8 | 1,926.3 | 46.1 | 49.4 | -3.3 | 1,925.5 | 28.6 | 18.5 | 10.0 | 5.4 | 6.7 | 6.2 | 6.5 | 7.0 | 6.5 | 7.2 | 6.7 | 6.3 | 5.8 | 6.4 | 5.9 |
| Variable rate | 1,207.4 | -1.8 | 22.9 | 22.9 | 0.0 | 1,250.6 | 12.7 | 22.7 | -10.0 | 1,247.9 | 12.8 | 13.6 | -0.7 | -5.3 | -4.0 | -4.7 | -4.3 | -1.7 | -0.3 | 0.1 | -0.5 | -0.5 | -0.1 | -0.1 | 0.0 |
| Non-financial corporations | 1,397.3 | 4.6 | 75.3 | 63.5 | 11.8 | 1,489.3 | 118.0 | 64.8 | 53.2 | 1,534.9 | 110.0 | 59.0 | 51.1 | 5.1 | 4.5 | 3.8 | 4.8 | 5.6 | 5.5 | 5.6 | 5.7 | 6.0 | 4.2 | 6.8 | 10.1 |
| Short-term | 113.8 | 5.8 | 49.6 | 48.7 | 0.9 | 116.7 | 64.1 | 50.8 | 13.3 | 128.8 | 60.3 | 48.6 | 11.7 | 6.4 | 14.6 | 13.7 | 15.8 | 16.5 | 10.0 | 17.6 | 12.6 | 9.1 | 1.4 | 3.8 | 8.4 |
| Long-term | 1,283.5 | -1.2 | 25.7 | 14.8 | 10.9 | 1,372.6 | 53.9 | 14.0 | 39.9 | 1,406.2 | 49.8 | 10.4 | 39.4 | 5.0 | 3.8 | 3.0 | 4.0 | 4.9 | 5.2 | 4.9 | 5.2 | 5.8 | 4.4 | 7.1 | 10.2 |
| of which | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed rate | 1,153.4 | -1.9 | 23.5 | 12.1 | 11.4 | 1,246.2 | 52.9 | 12.4 | 40.5 | 1,281.1 | 48.7 | 8.4 | 40.3 | 4.7 | 4.7 | 4.0 | 5.0 | 5.5 | 5.8 | 5.4 | 5.8 | 6.3 | 5.2 | 8.2 | 11.9 |
| Variable rate | 109.2 | 1.2 | 1.6 | 2.1 | -0.5 | 104.7 | 0.7 | 1.5 | -0.8 | 103.1 | 0.4 | 1.8 | -1.3 | 6.6 | -3.4 | -4.4 | -3.3 | -1.1 | -0.3 | -0.3 | -0.7 | 1.0 | -2.0 | -3.6 | -5.9 |
| General government of which | 8,268.8 | 25.3 | 241.0 | 190.7 | 50.3 | 8,622.3 | 449.8 | 277.3 | 172.5 | 8,873.0 | 421.5 | 166.6 | 254.9 | 1.8 | 1.9 | 2.0 | 2.0 | 1.5 | 1.6 | 1.5 | 1.4 | 1.6 | 2.3 | 4.5 | 7.3 |
| Central government | 7,574.2 | 33.8 | 182.8 | 141.9 | 40.9 | 7,863.6 | 350.9 | 214.4 | 136.5 | 8,065.7 | 320.9 | 116.4 | 204.5 | 2.1 | 2.0 | 2.1 | 2.1 | 1.5 | 1.6 | 1.5 | 1.4 | 1.5 | 2.1 | 4.2 | 6.5 |
| Short-term | 421.5 | 3.1 | 91.4 | 75.1 | 16.3 | 537.2 | 170.6 | 83.9 | 86.7 | 617.0 | 159.1 | 78.5 | 80.6 | -5.4 | -4.7 | -5.9 | -5.3 | -3.5 | -1.5 | -4.2 | -3.2 | -1.0 | 3.4 | 28.3 | 46.5 |
| Long-term | 7,152.7 | 30.7 | 91.4 | 66.9 | 24.6 | 7,326.4 | 180.3 | 130.4 | 49.8 | 7,448.7 | 161.8 | 37.9 | 123.9 | 2.7 | 2.4 | 2.7 | 2.5 | 1.8 | 1.7 | 1.8 | 1.6 | 1.6 | 2.1 | 2.8 | 4.1 |
| of which | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed rate | 6,114.0 | 25.7 | 70.3 | 51.2 | 19.2 | 6,254.3 | 145.5 | 91.7 | 53.9 | 6,346.4 | 113.1 | 19.6 | 93.6 | 2.2 | 1.4 | 1.4 | 1.5 | 0.9 | 0.8 | 1.0 | 0.7 | 0.7 | 1.3 | 2.7 | 3.8 |
| Variable rate | 757.7 | 4.7 | 8.3 | 8.6 | -0.3 | 725.8 | 16.7 | 31.4 | -14.7 | 752.9 | 27.2 | 0.0 | 27.2 | 0.2 | 1.6 | 3.0 | 1.4 | 0.1 | -0.9 | -1.0 | -0.9 | -0.9 | -0.9 | -3.5 | -0.5 |
| Other general government | 694.6 | -8.6 | 58.2 | 48.8 | 9.4 | 758.7 | 99.0 | 63.0 | 36.0 | 807.3 | 100.6 | 50.2 | 50.3 | -2.3 | 0.4 | 0.6 | 1.6 | 1.8 | 2.3 | 1.8 | 2.0 | 2.4 | 3.6 | 7.7 | 16.3 |
| Short-term | 58.9 | -2.6 | 48.7 | 41.6 | 7.1 | 111.0 | 78.5 | 54.0 | 24.5 | 144.1 | 81.5 | 47.4 | 34.0 | -8.3 | -2.5 | -13.2 | -2.1 | 27.5 | 33.7 | 29.9 | 24.6 | 33.8 | 56.1 | 79.7 | 145.1 |
| Long-term | 635.7 | -6.0 | 9.5 | 7.2 | 2.3 | 647.8 | 20.5 | 9.0 | 11.5 | 663.2 | 19.1 | 2.8 | 16.3 | -1.7 | 0.7 | 2.1 | 2.0 | -0.3 | -0.4 | -0.3 | -0.1 | -0.3 | -1.0 | 0.8 | 4.3 |
| of which | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed rate | 541.2 | -4.2 | 8.7 | 5.5 | 3.2 | 563.8 | 19.1 | 5.6 | 13.5 | 580.0 | 18.8 | 2.0 | 16.7 | 0.3 | 3.1 | 4.6 | 5.0 | 1.8 | 1.7 | 1.5 | 2.0 | 1.8 | 1.0 | 3.2 | 7.1 |
| Variable rate | 93.9 | -1.7 | 0.8 | 1.7 | -0.9 | 82.7 | 1.4 | 3.4 | -2.0 | 82.1 | 0.3 | 0.7 | -0.4 | -10.6 | -11.0 | -10.2 | -12.8 | -11.6 | -11.9 | -10.3 | -12.2 | -12.2 | -12.4 | -13.2 | -12.0 |

Source: ECB securities issues statistics.

1) Corresponding ESA 2010 sector codes: "MFIs" (including the Eurosystem) comprises the ECB and the national central banks of the euro area (S.121), as well as deposit-taking corporations except the central bank (S.122); "financial corporations other than MFIs" comprises other financial intermediaries, except insurance corporations and pension funds (S.125), financial auxiliaries (S.126), captive financial institutions and money lenders (S.127) and insurance corporations (S.128); "non-financial corporations" (S.11); "central government" (S.1311); "other general government" comprises state government (S.1312), local government (S.1313) and social security funds (S.1314).
2) The residual difference between total long-term debt securities and fixed and variable rate long-term debt securities consists of zero coupon bonds and revaluation effects.
3) As a full breakdown of net issues into gross issues and redemptions may not always be available for the period before November 2016, the difference between aggregated gross issues and redemptions may deviate from the aggregated net issues.
4) Monthly averages of the transactions during this period.
5) Annual growth rates are based on financial transactions that occur when an institutional unit incurs or redeems liabilities. The annual growth rates therefore exclude the impact of reclassifications, revaluations, exchange rate variations and any other changes which do not arise from transactions.

## Table 3: Listed shares issued by euro area residents, by issuing sector [1]
(EUR billions; market values)

| | Amounts outstanding | Net issues | Gross issues | Redemptions | Net issues | Amounts outstanding | Gross issues | Redemptions | Net issues | Annual percentage change in market capitalisation [3] | Amounts outstanding | Gross issues | Redemptions | Net issues | Annual percentage change in market capitalisation [3] | Annual growth rates of outstanding amounts [4] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May 2019 | | June 2019 - May 2020 [2] | | | Apr. 2020 | | | | | May 2020 | | | | | 2018 | 2019 | 2019 Q2 | 2019 Q3 | 2019 Q4 | 2020 Q1 | 2019 Dec. | 2020 Jan. | 2020 Feb. | 2020 Mar. | 2020 Apr. | 2020 May |
| Total | 7,593.7 | -1.3 | 5.2 | 5.5 | -0.2 | 6,971.3 | 4.5 | 0.5 | 4.0 | -13.9 | 7,286.8 | 4.7 | 10.4 | -5.7 | -4.0 | 1.0 | 0.1 | 0.1 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| MFIs | 470.9 | -0.1 | 0.2 | 0.2 | 0.0 | 343.3 | 0.0 | 0.0 | 0.0 | -36.1 | 362.9 | 0.0 | 0.6 | -0.6 | -22.9 | 1.7 | 0.3 | 0.2 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.1 | 0.1 | 0.0 |
| Non-MFI corporations of which | 7,122.8 | -1.2 | 5.0 | 5.3 | -0.3 | 6,628.0 | 4.5 | 0.5 | 4.0 | -12.3 | 6,923.8 | 4.7 | 9.8 | -5.1 | -2.8 | 0.9 | 0.1 | 0.1 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Financial corporations other than MFIs | 1,228.9 | -0.8 | 1.3 | 1.3 | 0.0 | 1,081.6 | 2.6 | 0.2 | 2.4 | -17.0 | 1,115.6 | 1.0 | 0.4 | 0.6 | -9.2 | 3.5 | 0.5 | 0.2 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | 0.0 | 0.1 |
| Non-financial corporations | 5,893.9 | -0.4 | 3.7 | 4.0 | -0.3 | 5,546.4 | 1.9 | 0.3 | 1.6 | -11.4 | 5,808.2 | 3.7 | 9.4 | -5.8 | -1.5 | 0.4 | 0.0 | 0.1 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 |

Source: ECB securities issues statistics.

1) Corresponding ESA 2010 sector codes: "MFIs" (including the Eurosystem) comprises the ECB and the national central banks of the euro area (S.121), as well as deposit-taking corporations except the central bank (S.122); "financial corporations other than MFIs" comprises other financial intermediaries, except insurance corporations and pension funds (S.125), financial auxiliaries (S.126), captive financial institutions and money lenders (S.127) and insurance corporations (S.128); "non-financial corporations" (S.11).

2) Monthly averages of the transactions during this period.

3) Percentage change between the amount outstanding at the end of the month and the amount outstanding 12 months earlier.

4) Annual growth rates are based on transactions that occur during the period and therefore exclude reclassifications and any other changes which do not arise from transactions.