

Valuation Techniques

The following is a description of the valuation techniques used to measure plan assets at fair value. There were no changes in valuation techniques during 2019 and 2018.

Equity securities are valued at the closing price reported on the stock exchange on which the individual securities are traded. IBM common stock is valued at the closing price reported on the New York Stock Exchange. Mutual funds are typically valued based on quoted market prices. These assets are generally classified as Level 1.

The fair value of fixed-income securities is typically estimated using pricing models, quoted prices of securities with similar characteristics or discounted cash flows and are generally classified as Level 2. If available, they are valued using the closing price reported on the major market on which the individual securities are traded.

Cash includes money market accounts that are valued at their cost plus interest on a daily basis, which approximates fair value. Short-term investments represent securities with original maturities of one year or less. These assets are classified as Level 1 or Level 2.

Real estate valuations require significant judgment due to the absence of quoted market prices, the inherent lack of liquidity and the long-term nature of such assets. These assets are initially valued at cost and are reviewed periodically utilizing available and relevant market data, including appraisals, to determine if the carrying value of these assets should be adjusted. These assets are classified as Level 3.

Exchange-traded derivatives are valued at the closing price reported on the exchange on which the individual securities are traded, while forward contracts are valued using a mid-close price. Over-the-counter derivatives are typically valued using pricing models. The models require a variety of inputs, including, for example, yield curves, credit curves, measures of volatility and foreign exchange rates. These assets are classified as Level 1 or Level 2 depending on availability of quoted market prices.

Certain investments are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient. These investments, which include commingled funds, hedge funds, private equity and real estate partnerships, are typically valued using the NAV provided by the administrator of the fund and reviewed by the company. The NAV is based on the value of the underlying assets owned by the fund, minus liabilities and divided by the number of shares or units outstanding.

Contributions and Direct Benefit Payments

It is the company's general practice to fund amounts for pensions sufficient to meet the minimum requirements set forth in applicable employee benefits laws and local tax laws. From time to time, the company contributes additional amounts as it deems appropriate.

The following table presents the contributions made to the non-U.S. DB plans, nonpension postretirement benefit plans, multi-employer plans, DC plans and direct payments for 2019 and 2018. The cash contributions to the multi-employer plans represent the annual cost included in the net periodic (income)/cost recognized in the Consolidated Income Statement. The company's participation in multi-employer plans has no material impact on the company's financial statements.

(\$ in millions)

For the year ended December 31:	2019	2018
Non-U.S. DB plans	\$ 243	\$ 325
Nonpension postretirement benefit plans	304	335
Multi-employer plans	32	38
DC plans	1,040	1,024
Direct benefit payments	559	567
Total	\$2,177	\$2,288

In 2019 and 2018, \$635 million and \$598 million, respectively, was contributed in U.S. Treasury securities, which is considered a non-cash transaction (includes the Active Medical Trust).

Defined Benefit Pension Plans

In 2020, the company is not legally required to make any contributions to the U.S. defined benefit pension plans. However, depending on market conditions, or other factors, the company may elect to make discretionary contributions to the Qualified PPP during the year.

In 2020, the company estimates contributions to its non-U.S. defined benefit and multi-employer plans to be approximately \$300 million, the largest of which will be contributed to defined benefit pension plans in Spain and Japan. This amount generally represents legally mandated minimum contributions.