The 2019 continuing operations effective tax rate decreased 15.9 points from 2018 driven by: a decrease in charges related to U.S. tax reform (16.5 points) and a charge in 2018 from intercompany payments (3.4 points). These benefits were partially offset by a lower benefit year to year from audit activity (4.4 points).

The effect of tax law changes on deferred tax assets and liabilities did not have a material impact on the company's 2019 effective tax rate.

Deferred Tax Assets

($ in millions)

At December 31:	2019	2018
Retirement benefits	$ 3,766	$3,620
Leases*	1,729	103**
Share-based and other compensation	637	636
Domestic tax loss/credit carryforwards	1,259	964
Deferred income	600	674
Foreign tax loss/credit carryforwards	836	903
Bad debt, inventory and warranty reserves	298	348
Depreciation	253	231
Accruals	368	336
Intangible assets	592	620
Capitalized research and development	722	—
Other	1,438	1,398
Gross deferred tax assets	12,498	9,833
Less: valuation allowance	608	915
Net deferred tax assets	$11,890	$8,918

Deferred Tax Liabilities

($ in millions)

At December 31:	2019	2018
Goodwill and intangible assets+	$ 3,111	$1,200
GILTI deferred taxes	1,908	1,927
Leases and right-of-use assets*	2,216	580
Depreciation	728	719
Retirement benefits	1,002	455
Software development costs+	1,075	292
Deferred transition costs	233	233
Undistributed foreign earnings	725	981
Other	940	1,011
Gross deferred tax liabilities	$11,938	$7,398

* Reflects the adoption of the FASB guidance on leases.

**Previously included in Other.

\+ The increase in the balance was primarily due to the acquisition of Red Hat.

For financial reporting purposes, the company had foreign and domestic loss carryforwards, the tax effect of which was $504 million, including a tax only capital loss in a subsidiary, as well as foreign and domestic credit carryforwards of $1,591 million. Substantially all of these carryforwards are available for at least two years and the majority are available for 10 years or more.

The valuation allowances as of December 31, 2019, 2018 and 2017 were $608 million, $915 million and $1,004 million, respectively. The amounts principally apply to certain foreign and domestic loss carryforwards and credits. In the opinion of management, it is more likely than not that these assets will not be realized. However, to the extent that tax benefits related to these carryforwards are realized in the future, the reduction in the valuation allowance will reduce income tax expense.

The amount of unrecognized tax benefits at December 31, 2019 increased by $387 million in 2019 to $7,146 million. A reconciliation of the beginning and ending amount of unrecognized tax benefits was as follows:

($ in millions)

	2019	2018	2017
Balance at January 1	$6,759	$ 7,031	$3,740
Additions based on tax positions related to the current year	816	394	3,029
Additions for tax positions of prior years	779	1,201	803
Reductions for tax positions of prior years (including impacts due to a lapse of statute)	(922)	(1,686)	(367)
Settlements	(286)	(181)	(174)
Balance at December 31	$7,146	$ 6,759	$7,031

The additions to unrecognized tax benefits related to the current and prior years were primarily attributable to U.S. federal and state tax matters, as well as non-U.S. tax matters, including transfer pricing, credits and incentives. The settlements and reductions to unrecognized tax benefits for tax positions of prior years were primarily attributable to U.S. federal and state tax matters, non-U.S. audits and impacts due to lapse of statute of limitations.

The unrecognized tax benefits at December 31, 2019 of $7,146 million can be reduced by $584 million associated with timing adjustments, U.S. tax credits, potential transfer pricing adjustments and state income taxes. The net amount of $6,562 million, if recognized, would favorably affect the company's effective tax rate. The net amounts at December 31, 2018 and 2017 were $6,041 million and $6,064 million, respectively.

Interest and penalties related to income tax liabilities are included in income tax expense. During the year ended December 31, 2019, the company recognized $13 million in interest expense and penalties; in 2018, the company recognized a net benefit of $14 million in interest expense and penalties; and, in 2017, the company recognized $174 million in interest expense and penalties. The company had $819 million for the payment of interest and penalties accrued at December 31, 2019, and had $680 million accrued at December 31, 2018.