

mainframe's capabilities extend the platform's differentiation with encryption everywhere, cloud-native development and instant recovery. In October, we announced OpenShift for IBM Z, bringing together the industry's most comprehensive enterprise container and Kubernetes platform with the enterprise server platforms of IBM Z and LinuxONE. IBM Z continues to deliver a high-value, secure and scalable platform for our clients.

Power Systems revenue decreased 13.5 percent as reported (12 percent adjusted for currency) year to year, due to the strong performance during the second half of 2018 driven by Linux and the introduction of the POWER9-based architecture in our mid-range and high-end products.

Storage Systems revenue decreased 8.9 percent as reported (8 percent adjusted for currency) year to year, with improvements in year-to-year performance in the fourth quarter of 2019, driven primarily by the launch of the next generation high-end storage system DS8900 in November.

Within Systems, cloud revenue of \$2.9 billion declined 4 percent as reported and 3 percent adjusted for currency.

(\$ in millions)

For the year ended December 31:	2019	2018	Yr.-to-Yr. Percent/ Margin Change
Systems			
External Systems			
Hardware gross profit	\$2,622	\$2,590	1.2%
External Systems			
Hardware gross profit margin	44.3%	40.7%	3.6 pts.
External Operating			
Systems Software			
gross profit	\$1,412	\$1,412	0.0%
External Operating			
Systems Software			
gross profit margin	83.8%	84.5%	(0.7)pts.
External total			
gross profit	\$4,034	\$4,002	0.8%
External total gross			
profit margin	53.1%	49.8%	3.2 pts.
Pre-tax income	\$ 701	\$ 904	(22.4)%
Pre-tax margin	8.4%	10.2%	(1.8)pts.

The Systems gross profit margin increased 3.2 points to 53.1 percent in 2019 compared to the prior year. The increase was driven by actions taken in 2018 to better position the cost structure over the longer term, a mix to IBM Z hardware and operating systems and margin improvement in Storage Systems.

Pre-tax income of \$701 million declined 22.4 percent and pre-tax margin of 8.4 percent decreased 1.8 points year to year driven by the declines in Power Systems and Storage Systems revenue and the continued investment in innovation across the Systems portfolio, mitigated by the benefit from the new hardware launches in the second-half 2019.

Global Financing

Global Financing is a reportable segment that is measured as a stand-alone entity. Global Financing facilitates IBM clients' acquisition of information technology systems, software and services by providing financing solutions in the areas where the company has expertise, while generating strong returns on equity. Global Financing also optimizes the recovery of residual values by selling assets sourced from end of lease, leasing used equipment to new clients, or extending lease arrangements with current clients. Sales of equipment include equipment returned at the end of a lease, surplus internal equipment and used equipment purchased externally. Residual value is a risk unique to the financing business and management of this risk is dependent upon the ability to accurately project future equipment values at lease inception. Global Financing has insight into product plans and cycles for both the IBM and OEM IT products under lease. Based upon this product information, Global Financing continually monitors projections of future equipment values and compares them with the residual values reflected in the portfolio.

Results of Operations

(\$ in millions)

For the year ended December 31:	2019	2018	Yr.-to-Yr. Percent Change
External revenue	\$1,400	\$1,590	(11.9)%
Internal revenue	1,232	1,610	(23.5)
Total revenue	\$2,632	\$3,200	(17.8)%
Pre-tax income	\$1,055	\$1,361	(22.5)%

In 2019, Global Financing delivered external revenue of \$1,400 million and total revenue of \$2,632 million, with a decrease in gross margin of 2.7 points to 58.8 percent. Total pre-tax income of \$1,055 million decreased 22.5 percent compared to 2018 and return on equity decreased 5.0 points to 25.8 percent.

Global Financing total revenue decreased 17.8 percent compared to the prior year. This was due to a decrease in internal revenue of 23.5 percent, driven by decreases in internal used equipment sales (down 27.4 percent to \$862 million) and internal financing (down 12.6 percent to \$370 million). External revenue declined 11.9 percent due to decreases in external financing (down 8.5 percent to \$1,120 million) and external used equipment sales (down 23.4 percent to \$281 million).