

derivative financial instruments generally include interest rate swaps, foreign currency swaps and forward contracts.

To perform the sensitivity analysis, we assess the risk of loss in fair values from the effect of hypothetical changes in interest rates and foreign currency exchange rates on market-sensitive instruments. The market values for interest and foreign currency exchange risk are computed based on the present value of future cash flows as affected by the changes in rates that are attributable to the market risk being measured. The discount rates used for the present value computations were selected based on market interest and foreign currency exchange rates in effect at December 31, 2019 and 2018. The differences in this comparison are the hypothetical gains or losses associated with each type of risk.

Information provided by the sensitivity analysis does not necessarily represent the actual changes in fair value that we would incur under normal market conditions because, due to practical limitations, all variables other than the specific market risk factor are held constant. In addition, the results of the model are constrained by the fact that certain items are specifically excluded from the analysis, while the financial instruments relating to the financing or hedging of those items are included by definition. Excluded items include short-term and long-term receivables from sales-type and direct financing leases, forecasted foreign currency cash flows and the company’s net investment in foreign operations. As a consequence, reported changes in the values of some of the financial instruments impacting the results of the sensitivity analysis are not matched with the offsetting changes in the values of the items that those instruments are designed to finance or hedge.

The results of the sensitivity analysis at December 31, 2019 and 2018, are as follows:

Interest Rate Risk

A 10 percent decrease in the levels of interest rates with all other variables held constant would result in a decrease in the fair value of our financial instruments of \$563 million and \$422 million at December 31, 2019 and 2018, respectively. A 10 percent increase in the levels of interest rates with all other variables held constant would result in an increase in the fair value of our financial instruments of \$546 million and \$408 million at December 31, 2019 and 2018, respectively. Changes in the relative sensitivity of the fair value of our financial instrument portfolio for these theoretical changes in the level of interest rates are primarily driven by changes in debt maturities, interest rate profile and amount.

Foreign Currency Exchange Rate Risk

At December 31, 2019, a 10 percent weaker U.S. dollar against foreign currencies, with all other variables held constant, would result in a decrease in the fair value of our financial instruments of \$616 million as compared to an increase of \$697 million at December 31, 2018. At December 31, 2019, a 10 percent stronger U.S. dollar against foreign currencies, with all other variables held constant, would result in an increase in the fair value of our financial instruments of \$616 million as compared to a decrease of \$697 million at December 31, 2018.

Financing Risks

See the “Description of Business” on page 33 for a discussion of the financing risks associated with the Global Financing business and management’s actions to mitigate such risks.

Cybersecurity

While cybersecurity risk can never be completely eliminated, our approach draws on the depth and breadth of our global capabilities, both in terms of our offerings to clients and our internal approaches to risk management. We offer commercial security solutions that deliver capabilities in areas such as identity and access management, data security, application security, network security and endpoint security. These solutions include pervasive encryption, threat intelligence, analytics, cognitive and artificial intelligence, and forensic capabilities that analyze client security events, yielding insights about attacks, threats, and vulnerabilities facing the client. We also offer professional consulting and technical services solutions for security from assessment and incident response to deployment and resource augmentation. In addition, we offer managed and outsourced security solutions from multiple security operations centers around the world. Finally, security is embedded in a multitude of our products and offerings through secure engineering and operations, and by critical functions (e.g., encryption, access control) in servers, storage, software, services, and other solutions.

From an enterprise perspective, we implement a multi-faceted risk-management approach based on the National Institute of Standards and Technology Cybersecurity Framework to identify and address cybersecurity risks. In addition, we have established policies and procedures that provide the foundation upon which IBM’s infrastructure and data are managed. We regularly assess and adjust our technical controls and methods to identify and mitigate emerging cybersecurity risks. We use a layered approach with overlapping controls to defend against cybersecurity attacks and threats on networks, end-user devices, servers, applications, data and cloud solutions. We draw heavily on our own commercial security solutions and services to mitigate cybersecurity risks. We also have threat intelligence and security monitoring programs, as well as a global incident response process to respond to cybersecurity threats and attacks. In addition, we utilize a combination of online training, educational tools, videos and other awareness initiatives to foster a culture of security awareness and responsibility among our workforce.

Employees and Related Workforce

(In thousands)	
For the year ended December 31:	2019
IBM/wholly owned subsidiaries	352.6
Less-than-wholly owned subsidiaries	9.6
Complementary	21.6

As a globally integrated enterprise, IBM operates in more than 175 countries and is continuing to shift our business to the higher value segments of enterprise IT. We continue to remix our skills and people needs to match the best opportunities in the marketplace.

The complementary workforce is an approximation of equivalent full-time employees hired under temporary, part-time and limited-term employment arrangements to meet specific business needs in a flexible and cost-effective manner.