
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended September 30, 2019

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____
Commission File Number 1-11689

Fair Isaac Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

94-1499887
(I.R.S. Employer
Identification No.)

181 Metro Drive, Suite 700

San Jose, California
(Address of principal executive offices)

95110-1346
(Zip Code)

Registrant's telephone number, including area code:
408-535-1500

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each Class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$0.01 par value per share	FICO	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large Accelerated Filer

Accelerated Filer

Non-Accelerated Filer

Smaller Reporting Company

Emerging Growth Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

As of March 31, 2019, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$5,769,737,106 based on the last transaction price as reported on the New York Stock Exchange on such date. This calculation does not reflect a determination that certain persons are affiliates of the registrant for any other purposes.

The number of shares of common stock outstanding on October 25, 2019 was 28,961,612 (excluding 59,895,171 shares held by the Company as treasury stock).

Items 10, 11, 12, 13 and 14 of Part III incorporate information by reference from the definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

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FORWARD LOOKING STATEMENTS

Statements contained in this report that are not statements of historical fact should be considered forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 (the “PSLRA”). In addition, certain statements in our future filings with the Securities and Exchange Commission (“SEC”), in press releases, and in oral and written statements made by us or with our approval that are not statements of historical fact constitute forward-looking statements within the meaning of the PSLRA. Examples of forward-looking statements include, but are not limited to: (i) projections of revenue, income or loss, expenses, earnings or loss per share, the payment or nonpayment of dividends, capital structure and other statements concerning future financial performance; (ii) statements of our plans and objectives by our management or Board of Directors, including those relating to products or services, research and development, and the sufficiency of capital resources; (iii) statements of assumptions underlying such statements, including those related to economic conditions; (iv) statements regarding results of business combinations; (v) statements regarding business relationships with vendors, customers or collaborators, including the proportion of revenues generated from international as opposed to domestic customers; and (vi) statements regarding products, their characteristics, performance, sales potential or effect in the hands of customers. Words such as “believes,” “anticipates,” “expects,” “intends,” “targeted,” “should,” “potential,” “goals,” “strategy,” “outlook,” and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those in such statements. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to, those described in Item 1A of Part I, Risk Factors, below. The performance of our business and our securities may be adversely affected by these factors and by other factors common to other businesses and investments, or to the general economy. Forward-looking statements are qualified by some or all of these risk factors. Therefore, you should consider these risk factors with caution and form your own critical and independent conclusions about the likely effect of these risk factors on our future performance. Such forward-looking statements speak only as of the date on which statements are made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made to reflect the occurrence of unanticipated events or circumstances. Readers should carefully review the disclosures and the risk factors described in this and other documents we file from time to time with the SEC, including our reports on Forms 10-Q and 8-K to be filed by the Company in fiscal 2020.

PART I

Item 1. *Business*

GENERAL

Fair Isaac Corporation (NYSE: FICO) (together with its consolidated subsidiaries, the “Company,” which may also be referred to in this report as “we,” “us,” “our,” and “FICO”) provides products, solutions and services that enable businesses to automate, improve and connect decisions to enhance business performance. Our predictive analytics, which includes the industry-standard FICO® Score, and our decision management systems leverage the use of big data and mathematical algorithms to predict consumer behavior and power hundreds of billions of customer decisions each year.

We were founded in 1956 on the premise that data, used intelligently, can improve business decisions. Today, we help thousands of companies in over 100 countries use our decision management technology to target and acquire customers more efficiently, increase customer value, reduce fraud and credit losses, lower operating expenses, and enter new markets more profitably. Most leading banks and credit card issuers rely on our solutions, as do insurers, retailers, telecommunications providers, automotive companies, pharmaceutical companies, healthcare organizations, public agencies and organizations in other industries. We also serve consumers through online services that enable people to purchase and understand their FICO® Scores, the standard measure in the U.S. of consumer credit risk, empowering them to manage their financial health.

More information about us can be found on our website, www.fico.com. We make our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K, as well as amendments to those reports, available free of charge through our website as soon as reasonably practicable after we electronically file them with the SEC. References to our website address in this report do not constitute an incorporation by reference. Information on our website is not part of this report.

PRODUCTS AND SERVICES

We use analytics to help businesses automate, improve and connect decisions across their enterprise, an approach we commonly refer to as decision management. Most of our solutions address customer engagement, including customer acquisition, customer onboarding, customer servicing and management, and customer protection. We also help businesses improve non-customer decisions such as transaction and claims processing. Our solutions enable users to make decisions that are more precise, consistent and agile, and that systematically advance business goals. This helps our clients to reduce the cost of doing business, increase revenues and profitability, reduce losses from risks and fraud, and increase customer loyalty.

Our Segments

We categorize our products and services into the following three operating segments:

- *Applications.* This segment includes pre-configured decision management applications designed for a specific type of business problem or process — such as marketing, account origination, customer management, fraud, collections and insurance claims management — as well as associated professional services. These applications are available to our customers as on-premises software, and many are available as hosted, software-as-a-service (“SaaS”) applications through the FICO® Analytic Cloud or third-party public clouds, such as those provided by Amazon Web Services (“AWS”).
- *Scores.* This segment includes our business-to-business scoring solutions and services, our business-to-consumer scoring solutions and services including myFICO® solutions for consumers, and associated professional services. Our scoring solutions give our clients access to analytics that can be easily integrated into their transaction streams and decision-making processes. Our scoring solutions are distributed through major credit reporting agencies worldwide, as well as services through which we provide our scores to clients directly.
- *Decision Management Software.* This segment is composed of analytic and decision management software tools that clients can use to create their own custom decision management applications, our FICO® Decision Management Suite, as well as associated professional services. These tools are available to our customers as on-premises software, through the FICO® Analytic Cloud or third-party public clouds, such as those provided by AWS.

Our Solutions

Our solutions involve four fundamental disciplines:

- Analytics, which include predictive analytics that identify risks and opportunities associated with individual customers, prospects and transactions, in order to detect patterns such as risk and fraud, as well as optimization analytics that are used to improve the design of decision logic or “strategies.”
- Data management and transaction profiling that bring extensive consumer information to every decision.
- Software such as decision management systems that author and implement business rules, models and decision strategies, often in a real-time environment, as well as software for managing customer engagement.
- Consulting services that help clients make the most of investments in FICO applications, tools and scores in the shortest possible time.

All of our solutions are designed to help businesses make decisions that are faster, more precise, more consistent and more agile, while reducing costs and risks incurred in making decisions. In addition, we offer our clients a portfolio of applications, tools and services in the cloud, which allow them to create, customize, deploy and manage powerful analytic services.

Applications

We develop industry-tailored decision management applications, which apply analytics, data management and decision management software to specific business challenges and processes. Our applications primarily serve clients in the banking, insurance, telecommunications, healthcare, retail and public sectors. During fiscal 2019, we continued to expand our product offerings for the FICO® Analytic Cloud and AWS, resulting in increased sales opportunities by accommodating small to mid-size businesses that benefit from the affordability and simplicity of cloud-based solutions. Within our Applications segment, our fraud solutions accounted for 18%, 17%, and 19% of total revenues in each of fiscal 2019, 2018 and 2017, respectively; our customer communication services accounted for 9%, 10%, and 10% of total revenues for each of these periods, respectively; and our customer management solutions accounted for 6%, 8%, and 8% of total revenues in each of these periods, respectively.

Marketing Applications

FICO® Marketing Solutions Suite is made up of products, capabilities and services designed to integrate the technology and analytic services needed to perform context-sensitive customer acquisition, cross-selling and retention programs and deliver mathematically optimized offers. The Marketing Solutions Suite enables companies that offer multiple products and use multiple channels (companies such as large financial institutions, consumer branded goods companies, pharmaceutical companies, retail merchants and hospitality companies) to execute more efficient and profitable customer interactions. Services offered in our marketing solutions include customer data integration services; services that enable real-time marketing through direct consumer interaction channels; campaign management, messaging and optimization services; interactive tools that automate the design, execution and collection of customer response data across multiple channels; and customer data collection, management and profiling services.

Originations Applications

We provide solutions that enable banks, credit unions, finance companies, alternative peer-to-peer and online lenders, auto lenders and other companies to automate and improve the processing of requests for credit or service. These solutions increase the speed and efficiency with which requests are handled, reduce losses and increase approval rates through analytics that assess applicant risk, and reduce the need for manual review by loan officers.

FICO® Origination Manager, an application-to-decision processing solution, is available both on premises and in the FICO® Analytic Cloud. Other solutions include the web-based FICO® LiquidCredit® service, which is primarily focused on credit decisions and offered largely to mid-tier banking institutions. Delivered as a cloud service, FICO® Origination Manager Essentials offers mid-market organizations the ability to inexpensively set up and process small business applications quickly, without a long or difficult implementation process. We also offer custom and consortium-based credit risk and application fraud models.

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Customer Management Applications

Our customer strategy management products and services enable businesses to automate and improve risk-based decisions for their existing customers. These solutions help businesses apply advanced analytics in account and customer decisions to increase portfolio revenue, decrease risk exposure and losses, and reduce customer attrition, while improving operational efficiencies.

We provide customer strategy management solutions for banking, telecommunications and retail. FICO® TRIAD® Customer Manager, a leading credit management system, is available both on-premises and in the FICO® Analytic Cloud. The solution is an adaptive control system, which enables businesses to rapidly adapt to changing business and internal conditions by designing and testing new strategies in a “champion/challenger” environment. The current version enables users to manage risk and communications at both the account and customer level from a single platform.

We market and sell FICO® TRIAD® Customer Manager software licenses, maintenance, consulting services, and strategy design and evaluation. Additionally, we provide TRIAD services and similar credit account management services through third-party credit card processors worldwide, including two of the largest processors in the U.S.

Fraud and Security Management Applications

Our fraud management products improve our clients’ profitability by predicting the likelihood a given transaction or customer account is experiencing fraud. Our fraud products analyze transactions in real time and generate recommendations for immediate action, which is critical to stopping third-party fraud, as well as first-party fraud and deliberate misuse of account privileges.

Our solutions are designed to detect and prevent a wide variety of fraud and risk types across multiple industries, including credit and debit payment card fraud; e-payment fraud; deposit account fraud; identity theft; healthcare fraud; Medicaid and Medicare fraud; and property and casualty insurance claims fraud, including workers’ compensation fraud. FICO fraud solutions protect financial institutions, insurance companies and government agencies from losses and damaged customer relationships caused by fraud and related criminal behavior.

Our leading fraud detection solution is the FICO® Falcon® Platform, recognized as a leader in global payment card fraud detection. The Falcon® Platform examines transaction, cardholder, account, customer, device and merchant data to detect a wide range of payment card fraud quickly and accurately utilizing artificial intelligence technology. It analyzes payment transactions in real time, assesses the risk of fraud in a fraud score, and provides the ability for user-defined variables and rules strategies to be used in conjunction with the fraud score to prevent fraud while expediting legitimate transactions. Adaptive analytics, a form of self-learning models, can also be employed to accelerate our customers’ response to evolving fraud tactics.

In September 2019, FICO introduced FICO® Falcon® X, a unified platform for the detection and investigation of both fraud and financial crimes. We also announced the FICO® Financial Crimes Studio, which allows banks’ data science teams to develop machine learning models using open source libraries, as well as FICO machine learning libraries, and then deploy the models on FICO® Falcon® X for operational use.

FICO® Fraud Predictor with Merchant Profiles is used in conjunction with the Falcon® Platform to improve fraud detection rates through the inclusion of merchant profiles, which is especially important for online transactions. Merchant profiles are built using fraud and transactional data that include characteristics revealing which merchants have a history of higher fraud volumes, and which purchase types and ticket sizes have most often been fraudulent at a particular merchant, among others.

FICO® Card Compromise Manager is used in conjunction with the FICO® Falcon® Platform to identify point-of-sale and e-commerce card compromises with analytically derived recommended actions—such as card block and reissue, or watch-listing—to optimize loss prevention. Separately, the FICO® Card Alert Service prevents ATM debit fraud by identifying counterfeit payment cards and reporting them to issuers. The service analyzes daily transactions from participating networks and uses this data to identify common points of compromise and suspect cards most likely to incur fraud.

In addition to our Falcon® products, we offer a wide range of solutions focused on preventing and detecting a variety of financial crimes. FICO® Application Fraud Manager helps businesses prevent both first- and third-party fraud during the application process. By preventing fraud prior to account origination, we help our customers avoid future losses as well as unnecessary collections costs. FICO® Identity Resolution Engine helps organizations detect and investigate organized criminal behavior using graph analytics to identify entities and their connections across federated data sources.

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FICO® Insurance Fraud Manager uses advanced unsupervised modeling techniques to detect health care claims fraud, abuse and errors as soon as unusual behavior patterns emerge. Insurance Fraud Manager is used by both public and private health care payers to detect and prevent fraud in both pre- and post-pay fraud investigation environments.

FICO offers a comprehensive modular set of compliance solutions to fight money-laundering, terrorist financing, and to fulfill custom requirements for governance, risk and compliance.

In August 2019, FICO acquired EZMCOM, Inc. (“EZMCOM”) to provide both identity proofing (“ID proofing”) and user authentication solutions. ID proofing is the digital process of on-boarding new customers without requiring face-to-face verification. The technology provides an extra layer of security that is easy to use, with minimal customer inconvenience, thereby preventing fraud as well as ensuring regulatory compliance standards such as e-KYC are met. User authentication is the real-time corroboration of an identity previously established to enable his or her access to an electronic or digital asset. As an authentication hub, FICO’s technology includes multifactor, biometric, and behavioral (user and device-based) capabilities.

FICO’s cybersecurity products utilize predictive analytics to deliver enterprise-level risk assessments. The FICO® Cyber Risk Score provides an empirically derived score that conveys the security posture of an organization and the likelihood of a material data breach in the next twelve months. The score is used to manage the cyber risk of an enterprise as well as to assess third-party risk that may be introduced by third-party partners and suppliers.

Collections & Recovery Applications

FICO® Debt Manager™, FICO® Debt Manager™ Pro, FICO® Debt Manager™ Pro Plus, FICO® PlacementsPlus® service and Placement Optimizer™ solution (collectively, the “FICO Debt Management Solutions”) automate the full cycle of collections and recovery, including early collections, late collections, asset disposal, agency placement and optimization, recovery, litigation, bankruptcy, asset management and residual balance recovery. PlacementsPlus service facilitates control over the distribution and management of accounts to agencies, attorneys, debt buyers and internal recovery departments. Placement Optimizer maximizes the effectiveness of the placement strategy once accounts are outsourced. FICO Debt Management Solutions also include assessments, models and scores, predictive analytics, advanced customer engagement and optimization. FICO® Debt Manager™ is available both on premises and in the FICO® Analytic Cloud.

Customer Communication Services

FICO® Customer Communication Services provide customer engagement, fraud resolution, and collection solutions in the cloud. It enables financial services institutions, utilities, telecommunications firms, insurers, and other businesses to engage in automated two-way communications. It allows businesses to reach customers in real time using short message service (“SMS”), mobile applications, automated voice, email and other channels; resolve matters such as verification of suspicious credit or debit card transactions; request missed payments; and resolve customer service issues. FICO® Customer Communication Services, combined with FICO’s decision management applications, allow businesses to execute and resolve customer interactions while improving customer outcomes.

Analytic Services

We perform custom predictive, descriptive and decision modeling and related analytic projects for clients in multiple industries to address business processes across the customer life cycle. This work leverages our analytic methodologies and expertise to solve risk management and marketing challenges for a single business, using that business’s data and industry best practices to develop a highly customized solution. Most of this work falls under predictive analytics, decision analysis and optimization, which provide greater insight into customer preferences and future customer behavior. Within decision analysis and optimization, we apply data and proprietary algorithms to the design of customer treatment strategies.

Scores

Our FICO® Scores are used in the majority of U.S. credit decisions, by nearly all of the major banks, credit card organizations, mortgage lenders and auto loan originators. These credit scores, developed based on third-party data, provide a consistent and objective measure of an individual's credit risk. Credit grantors use our FICO® Scores in a variety of ways: to prescreen candidates for marketing programs; to evaluate applicants for new credit; and to manage existing customer accounts. FICO® Score is a three-digit score ranging from 300-850. They are calculated by running data from the three U.S. national credit reporting agencies, Experian, TransUnion and Equifax, through one of several proprietary scoring models developed by FICO. Lenders generally pay the credit reporting agencies scoring fees based on usage, and the credit reporting agencies pay an associated fee to us. FICO® Score 9, the most recent version of the FICO® Score, was released in early fiscal 2015.

While the core FICO® Score is the foundation of our scoring portfolio, we offer a number of other broad-based scores, including several specific FICO® Industry Scores. We also develop various custom scores for our financial services clients. The FICO® Score XD expands the scorable population using alternative credit data. FICO® Score XD looks at public records and property data, and a consumer's history with mobile, landline phone and cable payments, to generate scores on the same 300-850 scale as standard FICO® Scores. FICO® Score XD is available to lenders from LexisNexis Risk Solutions and Equifax. We also continue to innovate with respect to scores that consider consumer permissioned data from accounts such as checking, savings, or money market accounts. Incorporating consumer contributed data is a unique approach to helping empower consumers to establish or improve their creditworthiness by using data that reflects sound financial activity but that is not part of a traditional credit report. This can help consumers qualify for the credit they seek under more competitive terms. This approach is particularly helpful for consumers who may have very sparse or inactive credit files and are seeking a path toward greater financial inclusion in mainstream banking.

Outside the U.S., we offer FICO® Scores, including scores using alternative data, for consumers, and in some cases for small and medium enterprises, through credit reporting agencies. We also have installed client-specific versions of the FICO® Score in over 10 countries. Like FICO® Scores in the U.S., these scores help lenders in multiple countries leverage the FICO® Score's predictive analysis to assess the risk of marketing prospects and credit applicants. FICO® Scores are in use or being implemented in 30 different countries across five continents outside the U.S.

We also have scoring systems for insurance underwriters and marketers. They use the same underlying statistical technology as our FICO® Scores, but are designed to predict applicant or policyholder insurance loss ratio for automobile or homeowners' coverage. Our insurance scores are available in the U.S. and Canada. We license credit bureau scoring services and related consulting directly to users in banking through the FICO® PreScore® service for prescreening solicitation candidates.

We also provide FICO® Score based products, education and information on FICO® Scores to consumers. They are distributed directly by us through our myFICO® service and through licensed distribution partners, including Experian and certain lenders, for use in customer and non-customer programs.

The myFICO® products and subscription offerings are available online at www.myfico.com. Consumers can use the myFICO.com website to purchase their FICO® Scores, including credit reports associated with the scores, explanations of the factors affecting their scores, and customized information on how to manage their scores. We make available the 28 most widely used versions of the FICO® Score from the three major U.S. credit bureaus through our myFICO® service, representing approximately 95% of all FICO® Scores sold and used by lenders. Customers can use products to simulate how taking specific actions could affect their FICO® Score 8. Consumers can also subscribe to monitoring services, which deliver alerts via email and text when changes to a user's FICO® Scores or other credit report content are detected. In addition, consumers can purchase identity theft monitoring products that alert consumers of potential risks of identity fraud with comprehensive detection and identity restoration services.

Decision Management Software

We provide analytic and decision management platforms and tools that businesses use to build their own tailored, analytically powered decision management applications on-premises, within the FICO® Analytic Cloud or via third-party cloud environments such as AWS. In contrast to our packaged applications developed for specific industry solutions, our tools platform adds scalable and flexible decision management capabilities to virtually any application or operational system. These tools are sold as licensed software or as a platform-as-a-service (“PaaS”) offering in the cloud, and can be used standalone, or in conjunction with third-party solutions to advance a client’s decision management initiatives. We use these tools as common software components for our own decision management solutions, described above in the Applications section. They are also key components of our decision management architecture. We also partner with third-party providers within given industry markets and with major software companies to embed our tools within existing applications.

During fiscal 2019, FICO continued to enhance the FICO® Decision Management Suite, a collection of tools for building, extending, deploying and scaling applications and solutions. The Decision Management Suite includes the FICO® Decision Management Platform, along with capabilities for authoring, customizing, executing, and managing predictive analytic, decisioning, and optimization components and services; developing, orchestrating and publishing analytics-powered applications; and visualizing, analyzing and reporting data trends. The FICO® Decision Management Suite is available on-premises, in the FICO® Analytic Cloud, or in third-party public cloud solutions such as AWS; businesses can choose any of these three deployments depending on their specific needs, IT environments and other factors. Recent upgrades and enhancements to the functionality in the suite include:

- FICO® Decision Management Platform, the fundamental backbone of the Suite, which dramatically improves performance, data interchange, model tracking and user collaboration;
- FICO® Decision Modeler, the core decision rules modeling tool, which improves scale, performance, and versatility;
- FICO® Analytics Workbench, the consolidated predictive analytics modeling tool, which improves overall capabilities, explainable AI functionality, and data wrangling;
- FICO® Strategy Director, which helps organizations proactively manage consumer accounts to increase revenue, decrease risk and improve customer retention;
- FICO® Decision Central™ (formerly known as Model Central), an analytic and decision model management tool, which expands its versatility and usability across a much broader range of implementations and use cases and makes it fully cloud-capable; and
- FICO® Xpress Optimization, an optimization modeling suite which includes both the solver technology, Mosel, as well as a general-purpose optimization solver, Xpress Insight.

The FICO® Decision Management Suite combines big data, predictive analytics and decision execution together in an easy-to-use development environment. It enables organizations to rapidly create innovative analytic applications; dramatically increase developer and business user productivity with support for a broad range of analytic and decision tools; and execute decisions in real time. It also empowers business analysts and other domain experts to modify systems in real time without IT involvement, providing organizations with the agility they need to rapidly respond to customer, regulatory and business changes.

The principal products offered are software tools for:

- *Rules Management.* The FICO® Blaze Advisor® decision rules management system is used to design, develop, execute and maintain rules-based business applications. The Blaze Advisor system enables business users to propose and preview the impact of changes to decisioning logic, to review and approve proposed changes, and commit those changes to production decisioning, all without demanding IT cycles. The Blaze Advisor system is sold as an end-user tool and is also the rules engine within several of our decision management applications. The Blaze Advisor system, available in six languages, is a multi-platform solution that: embeds rules management within existing applications; supports Web Services and service-oriented architecture, Java 2 Enterprise Edition platforms, Microsoft .NET and COBOL for z/OS mainframes; and is the first rules engine to support Java, .NET and COBOL deployment of the same rules. It also incorporates the exclusive Rete III rules execution technology, which improves the efficiency and speed with which the Blaze Advisor system is able to process and execute complex, high-volume decision rules. FICO’s solution for rules management in the cloud (i.e., Blaze Advisor in the cloud) is called FICO® Decision Modeler.

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- *Predictive Modeling.* FICO® Decision Central™ is a comprehensive offering to help banks and other organizations, including insurance, retail and health care companies, maximize the power of their predictive and decision models and meet stricter regulations for model management. It complements FICO® Analytics Workbench, which enables the user to develop and deploy sophisticated predictive models for use in automated decisions. This software is based on the methodology and tools FICO uses to build both client-level and industry-level predictive models and scorecards, which it has developed over more than 40 years, and includes additional algorithms for rapidly discovering variable relationships, predictive interactions and optimal segmentation. The predictive models produced can be embedded in custom production applications or one of our Decision Management applications and can also be executed in the FICO® Blaze Advisor® system. FICO® Analytics Workbench is available for on-premises or cloud implementation.
- *Optimization.* FICO® Xpress Optimization provides operations research professionals with world-class solvers and high-productivity tools to quickly design and deliver custom, mathematically optimal solutions for a wide range of industry problems. Xpress includes a powerful modeling and programming language, with robust scalability, to quickly model and solve even the largest optimization problems. Xpress tools are licensed to end users, consultants and independent software vendors in several industries, and are a core component within FICO® Decision Optimizer. Decision Optimizer is a software tool that enables complex, large-scale optimizations involving dozens of networked action-effect models, and enables exploration and simulation of many optimized scenarios along an efficient frontier of options. The data-driven strategies produced by these tools can be executed by the FICO® Blaze Advisor® system or one of our Decision Management applications. FICO's solution for creating or executing optimization solutions is available on-premises or in the cloud.

COMPETITION

The market for our advanced solutions is intensely competitive and is constantly changing. Our competitors vary in size and in the scope of the products and services they offer. We encounter competition from a number of sources, including:

- in-house analytic and systems developers;
- scoring model builders;
- enterprise resource planning and customer relationship management packaged solutions providers;
- business intelligence solutions providers;
- business process management and decision rules management providers;
- providers of credit reports and credit scores;
- providers of automated application processing services;
- data vendors;
- neural network developers and artificial intelligence system builders;
- third-party professional services and consulting organizations;
- providers of account/workflow management software;
- software companies supplying predictive analytic modeling, rules, or analytic development tools; collections and recovery solutions providers; entity resolution and social network analysis solutions providers; and
- providers of cloud-based customer engagement and risk management solutions.

We believe our competitors are unable to provide the mix of products, expertise in predictive analytics and integration with decision management software, and enhanced customer management capabilities that we are able to deliver. However, certain competitors may have larger shares of particular geographic or product markets than we do.

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Applications

The competition for our Applications varies by both application and industry.

In the marketing services market, we compete with Pegasystems, Equifax, Experian, SAS, Adobe and Salesforce, among others. We also compete with traditional advertising agencies and companies' internal information technology and analytics departments.

In the customer origination market, we compete with Experian, Equifax, Moody's, Meridian Link, and CGI, among others.

In the customer strategy management market, we compete with Experian and SAS, among others.

In the fraud management market for banking, we compete primarily with Actimize, a division of NICE Systems, Experian, Detica, a division of BAE, SAS and ACI Worldwide. In the fraud solutions market for health care insurance, we compete with Emdeon, OptumInsight, ViPS, MedStat, Detica, a division of BAE, SAS, Verisk Analytics and IBM. Verisk Analytics and SAS also compete in the property and casualty insurance claims fraud market.

In the collections and recovery market, we compete with both outside suppliers and in-house scoring and computer systems departments for software and ASP servicing. Major competitors include CGI, the three major U.S. credit reporting agencies and various boutique firms.

Scores

In this segment, we compete with both outside suppliers and in-house analytics departments for scoring business. Primary competitors among outside suppliers of scoring models are the three major credit reporting agencies in the U.S. and Canada, which are also our partners in offering our scoring solutions, Experian, TransUnion, and VantageScore (a joint venture entity established by the major U.S. credit reporting agencies). Additional competitors include CRIF and other credit reporting agencies outside the U.S., and other data providers like LexisNexis and ChoicePoint, some of which also are among FICO partners.

For our "direct-to-consumer" services that deliver credit scores, credit reports and consumer credit education services, we compete with other direct to consumer credit and identity services.

Decision Management Software

Our primary competitors in this segment include IBM, Experian, SAS, Pegasystems and Angoss.

Competitive Factors

We believe the principal competitive factors affecting our markets include: technical performance; access to unique proprietary databases; availability in SaaS or PaaS formats; product attributes like adaptability, scalability, interoperability, functionality and ease-of-use; product price; customer service and support; the effectiveness of sales and marketing efforts; existing market penetration; and reputation. Although we believe our products and services compete favorably with respect to these factors, we may not be able to maintain our competitive position against current and future competitors.

MARKETS AND CUSTOMERS

Our products and services serve clients in multiple industries, including primarily banking, insurance, retail, healthcare and public agencies. End users of our products include 98 of the 100 largest financial institutions in the U.S., and two-thirds of the largest 100 banks in the world. Our clients also include more than 700 insurers, including nine of the top ten U.S. property and casualty insurers; more than 400 retailers and general merchandisers; more than 150 government or public agencies; and more than 150 healthcare and pharmaceuticals companies, including seven of the world's top ten pharmaceuticals companies. All of the top ten companies on the 2019 *Fortune* 500 list use FICO's solutions. In addition, our consumer services are marketed to an estimated 200 million U.S. consumers whose credit relationships are reported to the three major U.S. credit reporting agencies.

In the U.S., we market our products and services primarily through our own direct sales organization that is organized around vertical markets. Sales groups are based in our headquarters and in field offices strategically located both in and outside the U.S. We also market our products through indirect channels, including alliance partners and other resellers.

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Our scores are marketed and sold through credit reporting agencies. During fiscal 2019, 2018 and 2017, revenues generated from our agreements with Experian, TransUnion and Equifax collectively accounted for 29%, 25% and 20% of our total revenues, respectively.

Outside the U.S., we market our products and services primarily through our subsidiary sales organizations. Our subsidiaries license and support our products in their local countries as well as within other foreign countries where we do not operate through a direct sales subsidiary. We also market our products through resellers and independent distributors in international territories not covered by our subsidiaries' direct sales organizations.

Our largest market segments outside the U.S. are the United Kingdom and Canada. In addition, we have delivered products to users in more than 100 countries.

TECHNOLOGY

We specialize in analytics software and decision management technologies that analyze data and drive decision strategies and customer engagement. We maintain active research in a number of fields for the purposes of deriving greater insight and predictive value from data, making various forms of data more usable and valuable to the model-building process, and automating and applying analytics to the various business processes involved in making high-volume decisions in real time.

We are widely recognized as a leader in predictive analytics due to our pioneering work in credit scoring and fraud detection. We believe that our tools and processes are among the very best commercially available, and that we are uniquely able to integrate advanced analytic, software and data technologies into mission-critical business solutions that offer superior returns on investment.

In fiscal 2019, we continued to make progress with our FICO® Decision Management Suite and FICO® Decision Management Platform initiatives. Most significantly for the fiscal year, we have added distinct FICO intellectual property into tools to develop explainable artificial intelligence or xAI. In addition, we have made many of our software solutions, which were previously available only as on-premises software installations, into SaaS solutions hosted on the FICO® Analytic Cloud and/or in AWS. The FICO® Decision Management Suite enables clients to use FICO tools, along with rapid application development tools and visualization tools, to quickly develop their own decision management applications and services. We continue to add functionality to the platform as well as host additional FICO applications in the cloud. These ongoing initiatives are driven by enhancing our core technical capabilities listed below, and extending them through partnerships with other technology providers as well as through employing open source software.

Principal Areas of Expertise

Predictive Modeling. Predictive modeling identifies and mathematically represents underlying relationships in historical data in order to explain the data and make predictions or classifications about future events. Our models summarize large quantities of data to amplify its value. Predictive models typically analyze current and historical data on individuals to produce easily understood metrics such as scores. These scores rank-order individuals by likely future performance, e.g., their likelihood of making credit payments on time, or of responding to a particular offer for services. We also include in this category models that detect the likelihood of a transaction being fraudulent. Our predictive models are frequently operationalized in mission-critical transactional systems and drive decisions and actions in near real time. A number of analytic methodologies underlie our products in this area. These include proprietary applications of both linear and nonlinear mathematical programming algorithms, in which one objective is optimized within a set of constraints, and advanced neural systems, which learn complex patterns from large data sets to predict the probability that a new individual will exhibit certain behaviors of business interest. We also apply various related statistical techniques for analysis and pattern detection within large datasets, and have enhanced our abilities to derive insights and predictive variables from various forms of so-called big data, including unstructured data, such as text. We have enhanced our predictive analytic capabilities to include the development of machine learning algorithms and artificial intelligence. FICO has focused on making artificial intelligence explainable to auditors, developers and decision makers.

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Decision Analysis and Optimization. Decision analysis refers to the broad quantitative field that deals with modeling, analyzing and optimizing decisions made by individuals, groups and organizations. Whereas predictive models analyze multiple aspects of individual behavior to forecast future behavior, decision analysis analyzes multiple aspects of a given decision to identify the most effective action to take to reach a desired result. We have developed an integrated approach to decision analysis that incorporates the development of a decision model that mathematically maps the entire decision structure; proprietary optimization technology that identifies the most effective strategies, given both the performance objective and constraints; the development of designed testing required for active, continuous learning; and the robust extrapolation of an optimized strategy to a wider set of scenarios than historically encountered. Our optimization capabilities also include a proprietary mathematical modeling and programming language, an easy-to-use development environment, and a state-of-the-art set of optimization algorithms.

Transaction Profiling. Transaction profiling is a patent-protected technique used to extract meaningful information and reduce the complexity of transaction data used in modeling. Many of our products operate using transactional data, such as credit card purchase transactions, or other types of data that change over time. In its raw form, this data is very difficult to use in predictive models for several reasons. First, an isolated transaction contains very little information about the behavior of the individual who generated the transaction. In addition, transaction patterns change rapidly over time. Finally, this type of data can often be highly complex. To overcome these issues, we have developed a set of techniques that transform raw transactional data into a mathematical representation that reveals latent information, and which make the data more usable by predictive models. This profiling technology accumulates data across multiple transactions of many types to create and update profiles of transaction patterns. These profiles enable our neural network models to efficiently and effectively make accurate assessments of, for example, fraud risk and credit risk within real-time transaction streams.

Customer Data Integration. Decisions made on customers or prospects can benefit from data stored in multiple sources, both inside and outside the enterprise. We have focused on developing data integration processes that are able to assemble and integrate those disparate data sources into a unified view of the customer or household, through the application of persistent keying technology. This data can include structured or unstructured data. Recent innovations include a solution that can integrate multiple data sources in real time and make them available for analysis and decisions.

Decision Management Software. In order to make a decision strategy operational, various steps and rules need to be programmed or exported into the business's software infrastructure, where they can communicate with front-end, customer-facing systems and back-end systems such as billing systems. We have developed software systems, sometimes known as decision engines and decision rules management systems, which perform the necessary functions to execute a decision strategy. Our software includes very efficient programs for these functions, facilitating, for example, business user definition of extremely complex decision strategies using graphical user interfaces; simultaneous testing of hundreds of decision strategies in "champion/challenger" (test/control) mode; high-volume processing and analysis of transactions in real time; integration of multiple data sources; and execution of predictive models for improved behavior forecasts and finer segmentation. Decision management software is an integral part of our decision management applications, described earlier.

Customer Engagement. We have advanced technology for customer engagement, which enables the execution of decisions and customer contact through SMS, email, automated voice, mobile applications and other channels. This technology enables FICO to extend decision management beyond the rendering of the decision to the final resolution with a customer, using the most effective method of communication for a given event and customer. Integrating this technology with our decision management systems has proven to decrease costs, improve staff efficiency, increase customer satisfaction and improve the return from marketing, fraud and collections activities.

Social Network Analysis. We have advanced technology for identity resolution and social network analysis, which enables users to understand the relationships between their organization, customers, events, and third-party actors. Businesses can perform real-time searches across their enterprise data to find, match, and link similar entities and uncover hidden relationship between people, places and things. This technology complements FICO's capabilities in the area of fraud and marketing analytics.

Cybersecurity. We have advanced services for cyber risk assessment, which enable users to understand the likelihood their organization or a third-party organization that is their partner, supplier, or potential supplier will suffer a material data breach within a forward-looking 12-month period. These services are used by organizations to track and monitor their own cyber risk for self-assessment and to assess and monitor partner and supplier enterprises for third-party risk assessment. They are also used by insurance underwriters to assess cyber risk for cyber breach insurance policies.

PRODUCT PROTECTION AND TRADEMARKS

We rely on a combination of patent, copyright, trademark and trade secret laws and confidentiality agreements and procedures to protect our proprietary rights.

We retain the title to and protect the suite of models and software used to develop scoring models as a trade secret. We also restrict access to our source code and limit access to and distribution of our software, documentation and other proprietary information. We have generally relied upon the laws protecting trade secrets and upon contractual nondisclosure safeguards and restrictions on transferability to protect our software and proprietary interests in our product and service methodology and know-how. Our confidentiality procedures include invention assignment and proprietary information agreements with our employees and independent contractors, and nondisclosure agreements with our distributors, strategic partners and customers. We also claim copyright protection for certain proprietary software and documentation.

We have patents on many of our technologies and have patent applications pending on other technologies. The patents we hold may not be upheld as valid and may not prevent the development of competitive products. In addition, patents may never be issued on our pending patent applications or on any future applications that we may submit. We currently hold 178 U.S. and 17 foreign patents with 101 applications pending.

Despite our precautions, it may be possible for competitors or users to copy or reproduce aspects of our software or to obtain information that we regard as trade secrets. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent as do the laws of the U.S. Patents and other protections for our intellectual property are important, but we believe our success and growth will depend principally on such factors as the knowledge, ability, experience and creative skills of our personnel, new products, frequent product enhancements and name recognition.

We have developed technologies for research projects conducted under agreements with various U.S. government agencies or their subcontractors. Although we have acquired commercial rights to these technologies, the U.S. government typically retains ownership of intellectual property rights and licenses in the technologies that we develop under these contracts. In some cases, the U.S. government can terminate our rights to these technologies if we fail to commercialize them on a timely basis. In addition, under U.S. government contracts, the government may make the results of our research public, which could limit our competitive advantage with respect to future products based on funded research.

We have used, registered and/or applied to register certain trademarks and service marks for our technologies, products and services. We currently have 34 trademarks registered in the U.S. and select foreign countries.

PERSONNEL

As of September 30, 2019, we employed 4,009 persons worldwide. Of these, 177 full-time employees were located in our San Jose, California office, 404 full-time employees were located in our San Diego, California office, 180 full-time employees were located in our Roseville, Minnesota office, 173 full-time employees were located in our San Rafael, California office, 142 full-time employees were located in our Fairfax, Virginia office, 1,109 full-time employees were located in our India-based offices and 400 full-time employees were located in our United Kingdom-based offices. None of our employees are covered by a collective bargaining agreement other than to the extent mandated by applicable law in certain foreign jurisdictions, and no work stoppages were experienced during fiscal 2019.

Information regarding our executive officers is included in Item 10, *Directors, Executive Officers and Corporate Governance*, of this Annual Report on Form 10-K.

Item 1A. Risk Factors

Risks Related to Our Business

We continue to expand the pursuit of our Decision Management strategy, and we may not be successful, which could cause our growth prospects and results of operations to suffer.

We continue to expand the pursuit of our business objective to become a leader in helping businesses automate and improve decisions across their enterprises, an approach that we commonly refer to as Decision Management, or “DM.” Our DM strategy is designed to enable us to increase our business by selling multiple products to clients, as well as to enable the development of custom client solutions that may lead to opportunities to develop new proprietary scores or other new proprietary products. Our DM strategy is also increasingly focused on the delivery of our products through cloud-based deployments. The market may be unreceptive to our general DM business approach, including being unreceptive to purchasing multiple products from us, unreceptive to our customized solutions, or unreceptive to our cloud-based offerings. As we continue to pursue our DM strategy, we may experience volatility in our revenues and operating results caused by various factors, including differences in revenue recognition treatment between our cloud-based offerings and on-premise software licenses, the timing of investments and other expenditures necessary to develop and operate our cloud-based offerings, and the adoption of new sales and delivery methods. If our DM strategy is not successful, we may not be able to grow our business, growth may occur more slowly than we anticipate, or our revenues and profits may decline.

We derive a substantial portion of our revenues from a small number of products and services, and if the market does not continue to accept these products and services, our revenues will decline.

We expect that revenues derived from our scoring solutions, fraud solutions, customer communication services, customer management solutions and decision management software will continue to account for a substantial portion of our total revenues for the foreseeable future. Our revenues will decline if the market does not continue to accept these products and services. Factors that might affect the market acceptance of these products and services include the following:

- changes in the business analytics industry;
- changes in technology;
- our inability to obtain or use key data for our products;
- saturation or contraction of market demand;
- loss of key customers;
- industry consolidation;
- failure to successfully adopt cloud-based technologies;
- failure to execute our selling approach; and
- inability to successfully sell our products in new vertical markets.

If we are unable to access new markets or develop new distribution channels, our business and growth prospects could suffer.

We expect that part of the growth that we seek to achieve through our DM strategy will be derived from the sale of DM products and service solutions in industries and markets we do not currently serve. We also expect to grow our business by delivering our DM solutions through additional distribution channels. If we fail to penetrate these industries and markets to the degree we anticipate utilizing our DM strategy, or if we fail to develop additional distribution channels, we may not be able to grow our business, growth may occur more slowly than we anticipate, or our revenues and profits may decline.

If we are unable to develop successful new products or if we experience defects, failures and delays associated with the introduction of new products, our business could suffer serious harm.

Our growth and the success of our DM strategy depend upon our ability to develop and sell new products or suites of products, including the development and sale of our cloud-based product offerings. If we are unable to develop new products, or if we are not successful in introducing new products, we may not be able to grow our business or growth may occur more slowly than we anticipate. In addition, significant undetected errors or delays in new products or new versions of products may affect market acceptance of our products and could harm our business, financial condition or results of operations. In the past, we have experienced delays while developing and introducing new products and product enhancements, primarily due to difficulties developing models, acquiring data, and adapting to particular operating environments or certain client or other systems. We have also experienced errors or “bugs” in our software products, despite testing prior to release of the products. Software errors in our products could affect the ability of our products to work with other hardware or software products, could delay the development or release of new products or new versions of products, and could adversely affect market acceptance of our products. Errors or defects in our products that are significant, or are perceived to be significant, could result in rejection of our products, damage to our reputation, loss of revenues, diversion of development resources, an increase in product liability claims, and increases in service and support costs and warranty claims.

We rely on relatively few customers, as well as our contracts with the three major credit reporting agencies, for a significant portion of our revenues and profits. Many of our customers are significantly larger than we are and may have greater bargaining power. The businesses of our largest customers depend, in large part, on favorable macroeconomic conditions. If these customers are negatively impacted by weak global economic conditions, global economic volatility or the terms of these relationships otherwise change, our revenues and operating results could decline.

Most of our customers are relatively large enterprises, such as banks, payment card processors, insurance companies, healthcare firms, telecommunications providers, retailers and public agencies. As a result, many of our customers and potential customers are significantly larger than we are and may have sufficient bargaining power to demand reduced prices and favorable nonstandard terms.

In addition, the U.S. and other key international economies have experienced in the past a downturn in which economic activity was impacted by falling demand for a variety of goods and services, restricted credit, poor liquidity, reduced corporate profitability, volatility in credit, equity and foreign exchange markets, bankruptcies and overall uncertainty with respect to the economy. The European Union (“E.U.”) continues to face great economic uncertainty which could impact the overall world economy or various other regional economies. The potential for economic disruption presents considerable risks to our business, including potential bankruptcies or credit deterioration of financial institutions with which we have substantial relationships. Such disruption could result in a decline in the volume of transactions that we execute for our customers.

We also derive a substantial portion of our revenues and operating income from our contracts with the three major credit reporting agencies, Experian, TransUnion and Equifax, and other parties that distribute our products to certain markets. The loss of or a significant change in a relationship with one of these credit reporting agencies with respect to their distribution of our products or with respect to our myFICO® offerings, the loss of or a significant change in a relationship with a major customer, the loss of or a significant change in a relationship with a significant third-party distributor (including payment card processors), or the delay of significant revenues from these sources, could have a material adverse effect on our revenues and results of operations.

We rely on relationships with third parties for marketing, distribution and certain services. If we experience difficulties in these relationships, our future revenues may be adversely affected.

Most of our products rely on distributors, and we intend to continue to market and distribute our products through existing and future distributor relationships. Our Scores segment relies on, among others, Experian, TransUnion and Equifax. Failure of our existing and future distributors to generate significant revenues or otherwise perform their expected services or functions, demands by such distributors to change the terms on which they offer our products, or our failure to establish additional distribution or sales and marketing alliances, could have a material adverse effect on our business, operating results and financial condition. In addition, certain of our distributors presently compete with us and may compete with us in the future, either by developing competitive products themselves or by distributing competitive offerings. For example, Experian, TransUnion and Equifax have developed a credit scoring product to compete directly with our products and are collectively attempting to sell the product. Competition from distributors or other sales and marketing partners could significantly harm sales of our products and services.

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Our acquisition and divestiture activities may disrupt our ongoing business and may involve increased expenses, and we may not realize the financial and strategic goals contemplated at the time of a transaction.

We have acquired and expect to continue to acquire companies, businesses, products, services and technologies. Acquisitions involve significant risks and uncertainties, including:

- our ongoing business may be disrupted and our management's attention may be diverted by acquisition, transition or integration activities;
- an acquisition may not further our business strategy as we expected, we may not integrate acquired operations or technology as successfully as we expected or we may overpay for our investments, or otherwise not realize the expected return, which could adversely affect our business or operating results;
- we may be unable to retain the key employees, customers and other business partners of the acquired operation;
- we may have difficulties entering new markets where we have no or limited direct prior experience or where competitors may have stronger market positions;
- our operating results or financial condition may be adversely impacted by claims or liabilities we assume from an acquired company, business, product or technology, including claims by government agencies, terminated employees, current or former customers, former stockholders or other third parties; pre-existing contractual relationships of an acquired company we would not have otherwise entered into; unfavorable revenue recognition or other accounting treatment as a result of an acquired company's practices; and intellectual property claims or disputes;
- we may fail to identify or assess the magnitude of certain liabilities or other circumstances prior to acquiring a company, business, product or technology, which could result in unexpected litigation or regulatory exposure, unfavorable accounting treatment, unexpected increases in taxes due, a loss of anticipated tax benefits or other adverse effects on our business, operating results or financial condition;
- we may not realize the anticipated increase in our revenues from an acquisition for a number of reasons, including if a larger than predicted number of customers decline to renew their contracts, if we are unable to sell the acquired products to our customer base or if contract models of an acquired company do not allow us to recognize revenues on a timely basis;
- we may have difficulty incorporating acquired technologies or products with our existing product lines and maintaining uniform standards, architecture, controls, procedures and policies;
- our use of cash to pay for acquisitions may limit other potential uses of our cash, including stock repurchases, dividend payments and retirement of outstanding indebtedness;
- to the extent we issue a significant amount of equity securities in connection with future acquisitions, existing stockholders may be diluted and earnings per share may decrease; and
- we may experience additional or unexpected changes in how we are required to account for our acquisitions pursuant to U.S. generally accepted accounting principles, including arrangements we assume from an acquisition.

We have also divested ourselves of businesses in the past and may do so again in the future. Divestitures involve significant risks and uncertainties, including:

- disruption of our ongoing business;
- reductions of our revenues or earnings per share;
- unanticipated liabilities, legal risks and costs;
- the potential loss of key personnel;
- distraction of management from our ongoing business; and
- impairment of relationships with employees and customers as a result of migrating a business to new owners.

Because acquisitions and divestitures are inherently risky, our transactions may not be successful and may have a material adverse effect on our business, results of operations, financial condition or cash flows. Acquisitions of businesses having a significant presence outside the U.S. will increase our exposure to the risks of conducting operations in international markets.

Charges to earnings resulting from acquisitions may adversely affect our operating results.

Under business combination accounting standards, we recognize the identifiable assets acquired and the liabilities assumed in acquired companies generally at their acquisition-date fair values and separately from goodwill. Goodwill is measured as the excess amount of consideration transferred, which is also generally measured at fair value, and the net of the amounts of the identifiable assets acquired and the liabilities assumed as of the acquisition date. Our estimates of fair value are based upon assumptions believed to be reasonable but which are inherently uncertain. After we complete an acquisition, the following factors could result in material charges and adversely affect our operating results and may adversely affect our cash flows:

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- impairment of goodwill or intangible assets, or a reduction in the useful lives of intangible assets acquired;
- amortization of intangible assets acquired;
- identification of, or changes to, assumed contingent liabilities, both income tax and non-income tax related, after our final determination of the amounts for these contingencies or the conclusion of the measurement period (generally up to one year from the acquisition date), whichever comes first;
- costs incurred to combine the operations of companies we acquire, such as transitional employee expenses and employee retention, redeployment or relocation expenses;
- charges to our operating results to maintain certain duplicative pre-merger activities for an extended period of time or to maintain these activities for a period of time that is longer than we had anticipated, charges to eliminate certain duplicative pre-merger activities, and charges to restructure our operations or to reduce our cost structure; and
- charges to our operating results resulting from expenses incurred to effect the acquisition.

Substantially all of these costs will be accounted for as expenses that will decrease our net income and earnings per share for the periods in which those costs are incurred. Charges to our operating results in any given period could differ substantially from other periods based on the timing and size of our future acquisitions and the extent of integration activities. A more detailed discussion of our accounting for business combinations and other items is presented in the “Critical Accounting Policies and Estimates” section of Management’s Discussion and Analysis of Financial Condition and Results of Operations (Item 7).

Our reengineering initiative may cause our growth prospects and profitability to suffer.

As part of our management approach, we implemented an ongoing reengineering initiative designed to grow revenues through strategic resource allocation and improve profitability through cost reductions. Our reengineering initiative may not be successful over the long term as a result of our failure to reduce expenses at the anticipated level, or a lower, or no, positive impact on revenues from strategic resource allocation. If our reengineering initiative is not successful over the long term, our revenues, results of operations and business may suffer.

The occurrence of certain negative events may cause fluctuations in our stock price.

The market price of our common stock may be volatile and could be subject to wide fluctuations due to a number of factors, including variations in our revenues and operating results. We believe that you should not rely on period-to-period comparisons of financial results as an indication of future performance. Because many of our operating expenses are fixed and will not be affected by short-term fluctuations in revenues, short-term fluctuations in revenues may significantly impact operating results. Additional factors that may cause our stock price to fluctuate include the following:

- variability in demand from our existing customers;
- failure to meet the expectations of market analysts;
- changes in recommendations by market analysts;
- the lengthy and variable sales cycle of many products, combined with the relatively large size of orders for our products, increases the likelihood of short-term fluctuation in revenues;
- consumer or customer dissatisfaction with, or problems caused by, the performance of our products;
- the timing of new product announcements and introductions in comparison with our competitors;
- the level of our operating expenses;
- changes in competitive and other conditions in the consumer credit, banking and insurance industries;
- fluctuations in domestic and international economic conditions;
- our ability to complete large installations, and to adopt and configure cloud-based deployments, on schedule and within budget;
- acquisition-related expenses and charges; and
- timing of orders for and deliveries of software systems.

In addition, the financial markets have at various times experienced significant price and volume fluctuations that have particularly affected the stock prices of many technology companies and financial services companies, and these fluctuations sometimes have been unrelated to the operating performance of these companies. Broad market fluctuations, as well as industry-specific and general economic conditions, may negatively affect our business and require us to record an impairment charge related to goodwill, which could adversely affect our results of operations, stock price and business.

Our products have long and variable sales cycles. If we do not accurately predict these cycles, we may not forecast our financial results accurately, and our stock price could be adversely affected.

We experience difficulty in forecasting our revenues accurately because the length of our sales cycles makes it difficult for us to predict the quarter in which sales will occur. In addition, our selling approach is complex as we look to sell multiple products and services across our customers' organizations. This makes forecasting of revenues in any given period more difficult. As a result of our sales approach and lengthening sales cycles, revenues and operating results may vary significantly from period to period. For example, the sales cycle for our products typically ranges from 60 days to 18 months. Customers are often cautious in making decisions to acquire our products because purchasing our products typically involves a significant commitment of capital and may involve shifts by the customer to a new software and/or hardware platform or changes in the customer's operational procedures. This may cause customers, particularly those experiencing financial stress, to make purchasing decisions more cautiously. Delays in completing sales can arise while customers complete their internal procedures to approve large capital expenditures and test and accept our applications. Consequently, we face difficulty predicting the quarter in which sales to expected customers will occur and experience fluctuations in our revenues and operating results. If we are unable to accurately forecast our revenues, our stock price could be adversely affected.

We typically have revenue-generating transactions concentrated in the final weeks of a quarter, which may prevent accurate forecasting of our financial results and cause our stock price to decline.

Large portions of our customer agreements are consummated in the weeks immediately preceding quarter end. Before these agreements are consummated, we create and rely on forecasted revenues for planning, modeling and earnings guidance. Forecasts, however, are only estimates and actual results may vary for a particular quarter or longer periods of time. Consequently, significant discrepancies between actual and forecasted results could limit our ability to plan, budget or provide accurate guidance, which could adversely affect our stock price. Any publicly-stated revenue or earnings projections are subject to this risk.

The failure to recruit and retain additional qualified personnel could hinder our ability to successfully manage our business.

Our DM strategy and our future success will depend in large part on our ability to attract and retain experienced sales, consulting, research and development, marketing, technical support and management personnel. The complexity of our products requires highly trained personnel for research and development and to assist customers with product installation, deployment, maintenance and support. The labor market for these individuals is very competitive due to the limited number of people available with the necessary technical skills and understanding and may become more competitive with general market and economic improvement. We cannot be certain that our compensation strategies will be perceived as competitive by current or prospective employees. This could impair our ability to recruit and retain personnel. We have experienced difficulty in recruiting qualified personnel, especially technical, sales and consulting personnel, and we may need additional staff to support new customers and/or increased customer needs. We may also recruit skilled technical professionals from other countries to work in the U.S., and from the U.S. and other countries to work abroad. Limitations imposed by immigration laws in the U.S. and abroad and the availability of visas in the countries where we do business could hinder our ability to attract necessary qualified personnel and harm our business and future operating results. There is a risk that even if we invest significant resources in attempting to attract, train and retain qualified personnel, we will not succeed in our efforts, and our business could be harmed. The failure of the value of our stock to appreciate may adversely affect our ability to use equity and equity-based incentive plans to attract and retain personnel, and may require us to use alternative and more expensive forms of compensation for this purpose.

The failure to obtain certain forms of model construction data from our customers or others could harm our business.

Our business requires that we develop or obtain a reliable source of sufficient amounts of current and statistically relevant data to analyze transactions and update our products. In most cases, these data must be periodically updated and refreshed to enable our products to continue to work effectively in a changing environment. We do not own or control much of the data that we require, most of which is collected privately and maintained in proprietary databases. Customers and key business partners provide us with the data we require to analyze transactions, report results and build new models. Our DM strategy depends in part upon our ability to access new forms of data to develop custom and proprietary analytic tools. If we fail to maintain sufficient data sourcing relationships with our customers and business partners, or if they decline to provide such data due to privacy concerns, competition concerns, prohibitions or a lack of permission from their customers or partners, we could lose access to required data and our products, and the development of new products, might become less effective. Third parties have asserted copyright and other intellectual property interests in these data, and these assertions, if successful, could prevent us from using these data. Any interruption of our supply of data could seriously harm our business, financial condition or results of operations.

We will continue to rely upon proprietary technology rights, and if we are unable to protect them, our business could be harmed.

Our success depends, in part, upon our proprietary technology and other intellectual property rights. To date, we have relied primarily on a combination of copyright, patent, trade secret, and trademark laws, and nondisclosure and other contractual restrictions on copying and distribution, to protect our proprietary technology. This protection of our proprietary technology is limited, and our proprietary technology could be used by others without our consent. In addition, patents may not be issued with respect to our pending or future patent applications, and our patents may not be upheld as valid or may not prevent the development of competitive products. Any disclosure, loss, invalidity of, or failure to protect our intellectual property could negatively impact our competitive position, and ultimately, our business. There can be no assurance that our protection of our intellectual property rights in the U.S. or abroad will be adequate or that others, including our competitors, will not use our proprietary technology without our consent. Furthermore, litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, or to determine the validity and scope of the proprietary rights of others. Such litigation could result in substantial costs and diversion of resources and could harm our business, financial condition or results of operations.

Some of our technologies were developed under research projects conducted under agreements with various U.S. government agencies or subcontractors. Although we have commercial rights to these technologies, the U.S. government typically retains ownership of intellectual property rights and licenses in the technologies developed by us under these contracts, and in some cases can terminate our rights in these technologies if we fail to commercialize them on a timely basis. Under these contracts with the U.S. government, the results of research may be made public by the government, limiting our competitive advantage with respect to future products based on our research.

If we are subject to infringement claims, it could harm our business.

We expect that products in the industry segments in which we compete, including software products, will increasingly be subject to claims of patent and other intellectual property infringement as the number of products and competitors in our industry segments grow. We may need to defend claims that our products infringe intellectual property rights, and as a result we may:

- incur significant defense costs or substantial damages;
- be required to cease the use or sale of infringing products;
- expend significant resources to develop or license a substitute non-infringing technology;
- discontinue the use of some technology;
- or
- be required to obtain a license under the intellectual property rights of the third party claiming infringement, which license may not be available or might require substantial royalties or license fees that would reduce our margins.

Moreover, in recent years, individuals and groups that are non-practicing entities, commonly referred to as “patent trolls,” have purchased patents and other intellectual property assets for the purpose of making claims of infringement in order to extract settlements. From time to time, we may receive threatening letters or notices or may be the subject of claims that our solutions and underlying technology infringe or violate the intellectual property rights of others. Responding to such claims, regardless of their merit, can be time consuming, costly to defend in litigation, divert management's attention and resources, damage our reputation and brand, and cause us to incur significant expenses.

If our cybersecurity measures are compromised or unauthorized access to customer or consumer data is otherwise obtained, our products and services may be perceived as not being secure, customers may curtail or cease their use of our products and services, our reputation may be damaged and we could incur significant liabilities.

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Our business requires the storage, transmission and utilization of sensitive consumer and customer information. Many of our products are provided by us through the Internet. Cybersecurity breaches could expose us to a risk of loss, the unauthorized disclosure of consumer or customer information, litigation, indemnity obligations and other liability. If our cybersecurity measures are breached as a result of third-party action, employee error, malfeasance or otherwise, and as a result, someone obtains unauthorized access to our systems or to consumer or customer information, our reputation may be damaged, our business may suffer and we could incur significant liability. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Malicious third parties may also conduct attacks designed to temporarily deny customers access to our services. Cybersecurity compromises experienced by our competitors, by our distributors, by our customers or by us may lead to public disclosures, which may lead to widespread negative publicity. Any cybersecurity compromise in our industry, whether actual or perceived, could harm our reputation, erode customer confidence in the effectiveness of our security measures, negatively impact our ability to attract new customers, cause existing customers to curtail or cease their use of our products and services, cause regulatory or industry changes that impact our products and services, or subject us to third-party lawsuits, regulatory fines or other action or liability, all of which could materially and adversely affect our business and operating results.

Protection from system interruptions is important to our business. If we experience system interruptions, it could harm our business.

Systems or network interruptions, including interruptions experienced in connection with our cloud-based and other product offerings, could delay and disrupt our ability to develop, deliver or maintain our products and services, causing harm to our business and reputation and resulting in loss of customers or revenue. These interruptions can include software or hardware malfunctions, communication failures, outages or other failures of third party environments or service providers, fires, floods, earthquakes, power losses, equipment failures and other events beyond our control.

Risks Related to Our Industry

Our ability to increase our revenues will depend to some extent upon introducing new products and services. If the marketplace does not accept these new products and services, our revenues may decline.

We have a significant share of the available market in portions of our Scores segment and for certain services in our Applications segment, specifically, the markets for account management services at payment card processors and payment card fraud detection software. To increase our revenues, we must enhance and improve existing products and continue to introduce new products and new versions of existing products that keep pace with technological developments, satisfy increasingly sophisticated customer requirements and achieve market acceptance. We believe much of the future growth of our business and the success of our DM strategy will rest on our ability to continue to expand into newer markets for our products and services. Such areas are relatively new to our product development and sales and marketing personnel. Products that we plan to market in the future are in various stages of development. We cannot assure you that the marketplace will accept these products. If our current or potential customers are not willing to switch to or adopt our new products and services, either as a result of the quality of these products and services or due to other factors, such as economic conditions, our revenues will decrease.

If we fail to keep up with rapidly changing technologies, our products could become less competitive or obsolete.

In our markets, technology changes rapidly, and there are continuous improvements in computer hardware, network operating systems, programming tools, programming languages, operating systems, database technologies, cloud-based technologies and the use of the Internet. If we fail to enhance our current products and develop new products in response to changes in technology or industry standards, or if we fail to bring product enhancements or new product developments to market quickly enough, our products could rapidly become less competitive or obsolete. Our future success will depend, in part, upon our ability to:

- innovate by internally developing new and competitive technologies;
- use leading third-party technologies effectively;
- continue to develop our technical expertise;
- anticipate and effectively respond to changing customer needs;
- initiate new product introductions in a way that minimizes the impact of customers delaying purchases of existing products in anticipation of new product releases; and
- influence and respond to emerging industry standards and other technological changes.

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Our product and pricing strategies may not be successful. If our competitors introduce new products and pricing strategies, it could decrease our product sales and market share, or could pressure us to reduce our product prices in a manner that reduces our margins.

Demand for our products and services may be sensitive to product and pricing changes we implement, and our product and pricing strategies may not be accepted by the market. If our customers fail to accept our product and pricing strategies, our revenues, results of operations and business may suffer. In addition, we may not be able to compete successfully against our competitors, and this inability could impair our capacity to sell our products. The market for business analytics is rapidly evolving and highly competitive, and we expect competition in this market to persist and intensify. Our regional and global competitors vary in size and in the scope of the products and services they offer, and include:

- in-house analytic and systems developers;
- scoring model builders;
- fraud and security management providers;
- enterprise resource planning, customer relationship management, and customer communication and mobility solution providers;
- business intelligence solutions providers;
- credit report and credit score providers;
- business process management and decision rules management providers;
- process modeling tools providers;
- automated application processing services providers;
- data vendors;
- neural network developers and artificial intelligence system builders;
- third-party professional services and consulting organizations;
- account/workflow management software providers;
- software tools companies supplying modeling, rules, or analytic development tools; collections and recovery solutions providers; entity resolution and social network analysis solutions providers; and
- cloud-based customer engagement and risk management solutions providers.

We expect to experience additional competition from other established and emerging companies, as well as from other technologies. For example, certain of our fraud solutions products compete against other methods of preventing payment card fraud, such as payment cards that contain the cardholder's photograph; smart cards; cardholder verification and authentication solutions; biometric measures on devices including fingerprint and face matching; and other card authorization techniques and user verification techniques. Many of our anticipated competitors have greater financial, technical, marketing, professional services and other resources than we do, and industry consolidation is creating even larger competitors in many of our markets. As a result, our competitors may be able to respond more quickly to new or emerging technologies and changes in customer requirements. They may also be able to devote greater resources than we can to develop, promote and sell their products. Many of these companies have extensive customer relationships, including relationships with many of our current and potential customers. Furthermore, new competitors or alliances among competitors may emerge and rapidly gain significant market share. For example, Experian, TransUnion and Equifax have formed an alliance that has developed a credit scoring product competitive with our products. If we are unable to respond as quickly or effectively to changes in customer requirements as our competition, our ability to expand our business and sell our products will be negatively affected.

Our competitors may be able to sell products competitive to ours at lower prices individually or as part of integrated suites of several related products. This ability may cause our customers to purchase products that directly compete with our products from our competitors. Price reductions by our competitors could negatively impact our margins, and could also harm our ability to obtain new long-term contracts and renewals of existing long-term contracts on favorable terms.

Laws and regulations in the U.S. and abroad that apply to us or to our customers may expose us to liability, cause us to incur significant expense, affect our ability to compete in certain markets, limit the profitability of or demand for our products, or render our products obsolete. If these laws and regulations require us to change our products and services, it could adversely affect our business and results of operations. New legislation or regulations, or changes to existing laws and regulations, may also negatively impact our business and increase our costs of doing business.

Laws and governmental regulation affect how our business is conducted and, in some cases, subject us to the possibility of government supervision and future lawsuits arising from our products and services. Laws and governmental regulation also influence our current and prospective customers' activities, as well as their expectations and needs in relation to our products and services. Laws and regulations that may affect our business and our current and prospective customers' activities include, but are not limited to, those in the following significant regulatory areas:

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- Use of data by creditors and consumer reporting agencies (e.g., the U.S. Fair Credit Reporting Act);
- Laws and regulations that limit the use of credit scoring models (e.g., state “mortgage trigger” or “inquiries” laws, state insurance restrictions on the use of credit-based insurance scores, and the E.U. Consumer Credit Directive);
- Fair lending laws (e.g., the Equal Credit Opportunity Act and Regulation B, and the Fair Housing Act);
- Privacy and security laws and regulations that limit the use and disclosure of personally identifiable information, require security procedures, or otherwise apply to the collection, processing, storage, use and transfer of protected data (e.g., the U.S. Financial Services Modernization Act of 1999, also known as the Gramm Leach Bliley Act; the General Data Protection Regulation (the “GDPR”) and country-specific data protection laws enacted to supplement the GDPR; the U.S. Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act; the Cybersecurity Act of 2015; the U.S. Department of Commerce’s National Institute of Standards and Technology’s Cybersecurity Framework; the Clarifying Lawful Overseas Use of Data Act; and identity theft, file freezing, security breach notification and similar state privacy laws);
- Extension of credit to consumers through the Electronic Fund Transfers Act and Regulation E, as well as non-governmental VISA and MasterCard electronic payment standards;
- Laws and regulations applicable to secondary market participants (e.g., Fannie Mae and Freddie Mac) that could have an impact on our scoring products, including 12 CFR Part 1254 (Validation and Approval of Credit Score Models) issued by the Federal Housing Finance Agency in accordance with Section 310 of the Economic Growth, Regulatory Relief, and Consumer Protection Act (Public Law 115-174), and any regulations, standards or criteria established pursuant to such laws or regulations;
- Laws and regulations applicable to our customer communication clients and their use of our products and services (e.g., the Telemarketing Sales Rule, Telephone Consumer Protection Act and regulations promulgated thereunder);
- Laws and regulations applicable to our insurance clients and their use of our insurance products and services;
- The application or extension of consumer protection laws, including implementing regulations (e.g., the Consumer Financial Protection Act, the Federal Trade Commission Act, the Truth In Lending Act and Regulation Z, the Fair Debt Collection Practices Act, the Servicemembers Civil Relief Act, the Military Lending Act, and the Credit Repair Organizations Act);
- Laws and regulations governing the use of the Internet and social media, telemarketing, advertising, endorsements and testimonials;
- Anti-bribery and corruption laws and regulations (e.g., the Foreign Corrupt Practices Act and the UK Bribery Act 2010);
- Financial regulatory standards (e.g., Sarbanes-Oxley Act requirements to maintain and verify internal process controls, including controls for material event awareness and notification);
- Regulatory requirements for managing third parties (e.g., vendors, contractors, suppliers and distributors);
- Anti-money laundering laws and regulations (e.g., the Bank Secrecy Act and the USA PATRIOT Act);
- Financial regulatory reform stemming from the Dodd-Frank Wall Street Reform and Consumer Protection Act and the many regulations mandated by that Act, including regulations issued by, and the supervisory and investigative authority of, the Consumer Financial Protection Bureau; and
- Laws and regulations regarding export controls as they apply to FICO products delivered in non-U.S. countries (e.g., Office of Foreign Asset Control sanctions, and Export Administration Regulations).

In addition, many U.S. and foreign jurisdictions have passed, or are currently contemplating, a variety of consumer protection, privacy, and data security laws and regulations that may relate to our business or affect the demand for our products and services. For example, the GDPR became effective on May 25, 2018 and imposes more stringent operational requirements for entities processing personal information and greater penalties for noncompliance. Brazil, India, South Africa, Japan, China, Israel, Canada, and several other countries have introduced and, in some cases, enacted, similar privacy laws. The California Consumer Privacy Act of 2018, which was enacted on June 28, 2018 and will become effective on January 1, 2020, gives California residents certain privacy rights in the collection and disclosure of their personal information and requires businesses to make certain disclosures and take certain other acts in furtherance of those rights. The costs and other burdens of compliance with privacy and data security laws and regulations could negatively impact the use and adoption of our solutions and reduce overall demand for them. Additionally, concerns regarding data privacy may cause our customers, or their customers and potential customers, to resist providing the data necessary to allow us to deliver our solutions effectively. Even the perception that the privacy of personal information is not satisfactorily protected or does not meet regulatory requirements could inhibit sales of our solutions and any failure to comply with such laws and regulations could lead to significant fines, penalties or other liabilities. Any such decrease in demand or incurred fines, penalties or other liabilities could have a material adverse effect on our business, results of operations, and financial condition.

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In addition to existing laws and regulations, changes in the U.S. or foreign legislative, judicial, regulatory or consumer environments could harm our business, financial condition or results of operations. The laws and regulations above, and changes to them, could affect the demand for or profitability of our products, including scoring and consumer products. New laws and regulations pertaining to our customers could cause them to pursue new strategies, reducing the demand for our products.

Our revenues depend, to a great extent, upon conditions in the banking (including consumer credit) and insurance industries. If our clients' industries experience uncertainty, it will likely harm our business, financial condition or results of operations.

During fiscal 2019, 88% of our revenues were derived from sales of products and services to the banking and insurance industries. Global economic uncertainty experienced in the U.S. and other key international economies in the past produced substantial stress, volatility, illiquidity and disruption of global credit and other financial markets, resulting in the bankruptcy or acquisition of, or government assistance to, several major domestic and international financial institutions. The potential for disruptions presents considerable risks to our businesses and operations. These risks include potential bankruptcies or credit deterioration of financial institutions, many of which are our customers. Such disruption would result in a decline in the revenue we receive from financial and other institutions.

While the rate of account growth in the U.S. bankcard industry has been slow and many of our large institutional customers have consolidated in recent years, we have generated most of our revenue growth from our bankcard-related scoring and account management businesses by selling and cross-selling our products and services to large banks and other credit issuers. As the banking industry continues to experience contraction in the number of participating institutions, we may have fewer opportunities for revenue growth due to reduced or changing demand for our products and services that support customer acquisition programs of our customers. In addition, industry contraction could affect the base of recurring revenues derived from contracts in which we are paid on a per-transaction basis as formerly separate customers combine their operations under one contract. There can be no assurance that we will be able to prevent future revenue contraction or effectively promote future revenue growth in our businesses.

While we are attempting to expand our sales of consumer credit, banking and insurance products and services into international markets, the risks are greater as these markets are also experiencing substantial disruption and we are less well-known in them.

Risks Related to External Conditions

Material adverse developments in global economic conditions, or the occurrence of certain other world events, could affect demand for our products and services and harm our business.

Purchases of technology products and services and decisioning solutions are subject to adverse economic conditions. When an economy is struggling, companies in many industries delay or reduce technology purchases, and we experience softened demand for our decisioning solutions and other products and services. Global economic uncertainty has produced substantial stress, volatility, illiquidity and disruption of global credit and other financial markets in the past. Any economic uncertainty can negatively affect the businesses and purchasing decisions of companies in the industries we serve. The potential for disruptions presents considerable risks to our businesses and operations. If global economic conditions experience stress and negative volatility, or if there is an escalation in regional or global conflicts or terrorism, we will likely experience reductions in the number of available customers and in capital expenditures by our remaining customers, longer sales cycles, deferral or delay of purchase commitments for our products and increased price competition, which may adversely affect our business, results of operations and liquidity.

For example, on June 23, 2016, the United Kingdom ("U.K.") held a referendum in which voters approved an exit from the E.U., commonly referred to as "Brexit." As a result of the referendum, on March 29, 2017, the U.K. triggered Article 50 of the Lisbon Treaty formally starting negotiations regarding its exit from the E.U. As a result of the referendum and the ongoing uncertainty regarding the timing of Brexit, the future relationship between the U.K. and the E.U. remains unknown. Brexit has caused, and may continue to create, volatility in global stock markets and regional and global economic uncertainty, which may cause our customers to closely monitor their costs and reduce their spending budget on our products and services.

Whether or not recent or new legislative or regulatory initiatives or other efforts successfully stabilize and add liquidity to the financial markets, we may need to modify our strategies, businesses or operations, and we may incur additional costs in order to compete in a changed business environment. Given the volatile nature of the global economic environment and the uncertainties underlying efforts to stabilize it, we may not timely anticipate or manage existing, new or additional risks, as well as contingencies or developments, which may include regulatory developments and trends in new products and services. Our failure to do so could materially and adversely affect our business, financial condition, results of operations and prospects.

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In operations outside the U.S., we are subject to additional risks that may harm our business, financial condition or results of operations.

A growing portion of our revenues is derived from international sales. During fiscal 2019, 34% of our revenues were derived from business outside the U.S. As part of our growth strategy, we plan to continue to pursue opportunities outside the U.S., including opportunities in countries with economic systems that are in early stages of development and that may not mature sufficiently to result in growth for our business. Accordingly, our future operating results could be negatively affected by a variety of factors arising out of international commerce, some of which are beyond our control. These factors include:

- general economic and political conditions in countries where we sell our products and services;
- difficulty in staffing and efficiently managing our operations in multiple geographic locations and in various countries;
- effects of a variety of foreign laws and regulations, including restrictions on access to personal information;
- import and export licensing requirements;
- longer payment cycles;
- reduced protection for intellectual property rights;
- currency fluctuations;
- changes in tariffs and other trade barriers; and
- difficulties and delays in translating products and related documentation into foreign languages.

There can be no assurance that we will be able to successfully address each of these challenges in the near term. Additionally, some of our business will be conducted in currencies other than the U.S. dollar. Foreign currency transaction gains and losses are not currently material to our cash flows, financial position or results of operations. However, an increase in our foreign revenues could subject us to increased foreign currency transaction risks in the future.

In addition to the risk of depending on international sales, we have risks incurred in having research and development personnel located in various international locations. We currently have a substantial portion of our product development staff in international locations, some of which have political and developmental risks. If such risks materialize, our business could be damaged.

Our anti-takeover defenses could make it difficult for another company to acquire control of FICO, thereby limiting the demand for our securities by certain types of purchasers or the price investors are willing to pay for our stock.

Certain provisions of our Restated Certificate of Incorporation, as amended, could make a merger, tender offer or proxy contest involving us difficult, even if such events would be beneficial to the interests of our stockholders. These provisions include giving our board the ability to issue preferred stock and determine the rights and designations of the preferred stock at any time without stockholder approval. The rights of the holders of our common stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock that may be issued in the future. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or discouraging a third party from acquiring, a majority of our outstanding voting stock. These factors and certain provisions of the Delaware General Corporation Law may have the effect of deterring hostile takeovers or otherwise delaying or preventing changes in control or changes in our management, including transactions in which our stockholders might otherwise receive a premium over the fair market value of our common stock.

If we experience changes in tax laws or adverse outcomes resulting from examination of our income tax returns, it could adversely affect our results of operations.

We are subject to federal and state income taxes in the U.S. and in certain foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. Our future effective tax rates could be adversely affected by changes in tax laws, by our ability to generate taxable income in foreign jurisdictions in order to utilize foreign tax losses, and by the valuation of our deferred tax assets. In addition, we are subject to the examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of adverse outcomes resulting from such examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from such examinations will not have an adverse effect on our operating results and financial condition.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. *Properties*

Our properties consist primarily of leased office facilities for sales, data processing, research and development, consulting and administrative personnel. Our principal locations include:

- approximately 55,000 square feet of office space in San Jose, California in one building under a lease expiring in fiscal 2024; this is used for our corporate headquarters and all of our segments;
- approximately 173,000 square feet of office space in Bangalore, India in one building under a lease expiring in fiscal 2022; this is used for Applications and Decision Management Software segments;
- approximately 124,000 square feet of office space in San Rafael, California in one building under a lease expiring in fiscal 2025; this is used for all of our segments;
- approximately 80,000 square feet of office space in San Diego, California in one building under a lease expiring in fiscal 2027; this is used for Applications and Decision Management Software segments; and
- approximately 45,000 square feet of office space in Roseville, Minnesota in one building under a lease expiring in fiscal 2028; this is used for all of our segments.

In addition, we lease an aggregate of approximately 254,000 square feet of office and data center space in a number of smaller domestic locations and internationally in the United Kingdom, China, Singapore, and several other locations. We believe that suitable additional space will be available to accommodate future needs. See Note 17 to the accompanying consolidated financial statements for information regarding our obligations under leases.

Item 3. *Legal Proceedings*

Not Applicable.

Item 4. *Mine Safety Disclosures*

Not Applicable.

PART II**Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities****Market Information**

Our common stock trades on the New York Stock Exchange under the symbol: FICO. According to records of our transfer agent, at October 25, 2019, we had 303 stockholders of record of our common stock.

Unregistered Sales of Equity Securities and Use of Proceeds

Not applicable.

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2)
July 1, 2019 through July 31, 2019	63,866	\$ 335.90	60,554	\$ 250,000,000
August 1, 2019 through August 31, 2019	76,445	\$ 348.16	75,000	\$ 223,871,960
September 1, 2019 through September 30, 2019	10,468	\$ 352.38	10,000	\$ 220,332,604
Total	150,779	\$ 343.26	145,554	\$ 220,332,604

(1) Includes 5,225 shares delivered in satisfaction of the tax withholding obligations resulting from the vesting of restricted stock units held by employees during the quarter ended September 30, 2019.

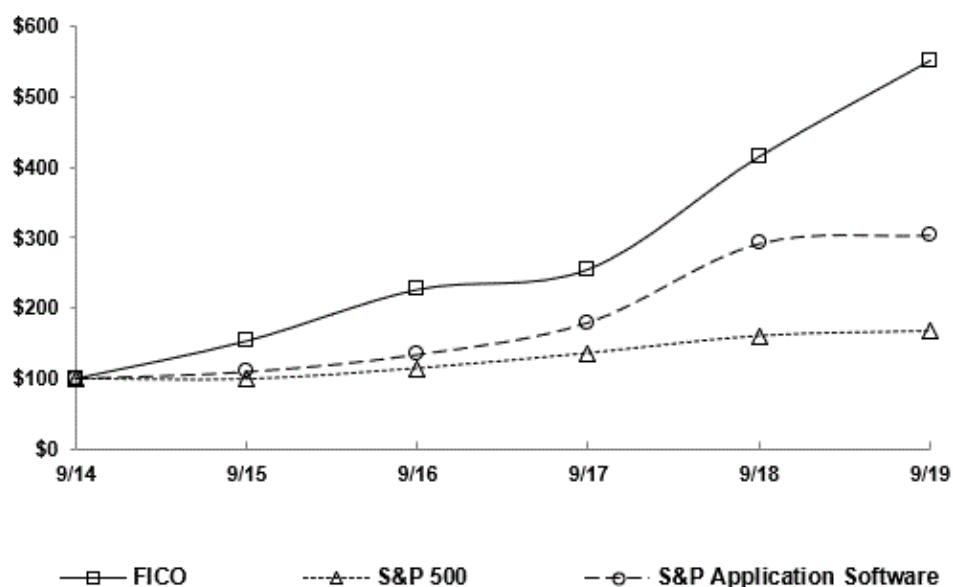
(2) In July 2018, our Board of Directors approved a stock repurchase program following the completion of our previous program. This program was open-ended and authorized repurchases of shares of our common stock up to an aggregate cost of \$250.0 million in the open market or in negotiated transactions. In July 2019, our Board of Directors approved a new stock repurchase program following the completion of the July 2018 program. The new program is open-ended and authorizes repurchases of shares of our common stock up to an aggregate cost of \$250.0 million in the open market or in negotiated transactions.

Performance Graph

The following graph shows the total stockholder return of an investment of \$100 in cash on September 30, 2014, in (a) the Company's common stock, (b) the Standard & Poor's 500 Stock Index and (c) the Standard & Poor's 500 Application Software Index, in each case with reinvestment of dividends. We do not believe there are any publicly traded companies that compete with us across the full spectrum of our product and service offerings.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among FICO, the S&P 500 Index
and the S&P Application Software Index



*\$100 invested on 9/30/14 in stock or index, including reinvestment of dividends.
Fiscal year ending September 30.

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Item 6. Selected Financial Data

We acquired TONBELLER Aktiengesellschaft in January 2015, QuadMetrics, Inc. in May 2016, and EZMCOM in August 2019. Results of operations from the acquisitions are included prospectively from their respective acquisition dates and did not materially impact comparability of the data presented below.

	Year Ended September 30,				
	2019	2018	2017 (1)	2016	2015 (1)
	As Adjusted		As Adjusted		
	(In thousands, except per share data)				
Revenues	\$ 1,160,083	\$ 1,000,146	\$ 934,983	\$ 881,356	\$ 838,781
Operating income	253,548	175,359	182,159	169,592	137,505
Net income	192,124	126,482	133,414	109,448	86,502
Basic earnings per share	6.63	4.26	4.32	3.52	2.75
Diluted earnings per share	6.34	4.06	4.14	3.39	2.65
Dividends declared per share	—	—	0.04	0.08	0.08

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	September 30,				
	2019	2018	2017	2016	2015
		As Adjusted	As Adjusted		
	(In thousands)				
Working capital	\$ (35,122)	\$ (77,514)	\$ 22,842	\$ 21,561	\$ 42,727
Total assets	1,433,448	1,330,467	1,348,728	1,220,676	1,230,163
Senior notes	485,000	513,000	244,000	316,000	376,000
Revolving line of credit	345,000	257,000	361,000	255,000	232,000
Stockholders' equity	289,767	287,437	466,183	446,828	436,998

(1) Results of operations for fiscal years 2017 and 2015 included pre-tax charges of \$4.5 million and \$18.2 million, respectively, in restructuring and acquisition-related expenses.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Our Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") includes the following: a business overview that provides a high-level summary of our strategies and initiatives, financial results and bookings trends that affect our business; a more detailed analysis of our results of operations; our liquidity and capital resources, which discusses key aspects of our statements of cash flows, changes in our balance sheets and our financial commitments; and a summary of our critical accounting policies and estimates we believe are important to understanding the assumptions and judgments incorporated in our reported financial results. Our MD&A should be read in conjunction with Item 8, *Financial Statements and Supplementary Data*, of this Annual Report on Form 10-K. The following discussion contains forward-looking statements that are subject to risks and uncertainties. Actual results may differ from those referred to herein due to a number of factors, including but not limited to risks described in Item 1A, *Risk Factors*, in this Annual Report on Form 10-K.

BUSINESS OVERVIEW

Strategies and Initiatives

During fiscal 2019, our growth initiatives continued to generate significant free cash flow. We utilized our cash to enhance stockholder value through investments in long-term growth initiatives; acquisitions of relevant technologies and products that strengthen our portfolio and competitive position; and our stock repurchase programs.

We continued to transform our business from on-premises to recurring revenue associated with our cloud-based solutions in our Applications and Decision Management Software segments. Our continued product innovation provides growth opportunities with customers that can benefit from the affordability and simplicity of these solutions. The majority of our software solutions are now available through both the FICO[®] Analytic Cloud and AWS. During fiscal 2019, our cloud bookings accounted for 39% of our total bookings, compared to 35% during fiscal 2018.

For our Scores segment, our industry leading business-to-business FICO[®] Scores has achieved a multi-year expansion in the growing U.S. consumer market. We have launched numerous new FICO[®] Score based products, and continue to grow our partnership with Experian, a leading global information services provider. This partnership provides consumers the FICO[®] Score that lenders most commonly use in evaluating credit when determining applicant eligibility for new credit cards, car loans, mortgages or other lines of credit and can be accessed through Experian.com. The FICO[®] Score Open Access program, which allows our participating clients to provide their customers with a free FICO[®] Score along with content to help them understand the FICO[®] Score their lender uses, has more than 290 million consumer accounts with access to their free FICO[®] Scores. We continue to pursue additional partners to distribute FICO[®] Scores with their product offerings sold directly to consumers.

We continue to enhance stockholder value by returning cash to stockholders through our stock repurchase program. During fiscal 2019, we repurchased approximately 0.9 million shares at a total repurchase price of \$228.9 million. As of September 30, 2019, we had \$220.3 million remaining under our current stock repurchase program.

Overview of Financial Results

Total revenues for fiscal 2019 were \$1.16 billion, an increase of 16% from \$1.00 billion in fiscal 2018. We continue to drive growth in our Scores segment. Scores revenue increased 25% to \$421.2 million in fiscal 2019 from \$335.9 million in fiscal 2018, and Scores operating income increased 33% to \$361.4 million in fiscal 2019 from \$272.4 million in fiscal 2018. For our Applications and Decision Management Software segments, our cloud business continues to grow as we pursue our cloud-first strategy. Cloud revenues increased 12% to \$270.4 million during fiscal 2019, from \$240.9 million during fiscal 2018.

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We derive a significant portion of revenues internationally, and 34% and 35% of total consolidated revenues were derived from clients outside the U.S. during fiscal 2019 and 2018, respectively. A significant portion of our revenues are derived from the sale of products and services within the banking (including consumer credit) industry, and 87% and 85% of our revenues were derived from within this industry during fiscal 2019 and 2018, respectively. In addition, we derive a significant share of revenues from transactional or unit-based software license fees, transactional fees derived under credit scoring, data processing, data management and SaaS subscription services arrangements, and annual software maintenance fees. Arrangements with transactional or unit-based pricing accounted for 74% and 75% of our revenues during fiscal 2019 and 2018, respectively. Revenue fluctuations in our business are primarily driven by changes in the transactional volume and license fees.

Operating income for fiscal 2019 was \$253.5 million, an increase of 45% from \$175.4 million in fiscal 2018. Operating margin was 22% and 18% for fiscal 2019 and 2018, respectively. As a result, net income increased 52% to \$192.1 million in fiscal 2019 from \$126.5 million in fiscal 2018. Diluted earnings per share for fiscal 2019 was \$6.34, an increase of 56% from \$4.06 in fiscal 2018.

Bookings

Management regards the volume of bookings achieved as an important indicator of future revenues, but they are not comparable to nor a substitute for an analysis of our revenues. Bookings represent contracts signed in the current reporting period that generate current and future revenue streams. While we disclose estimated revenue expected to be recognized in the future related to unsatisfied performance obligations in Note 16 to the accompanying consolidated financial statements, we believe bookings amount is still a meaningful measure of our business as it includes estimated revenues omitted from Note 16, such as sales- or usage-based royalties derived from our software licenses, among others.

We estimate bookings as of the end of the period in which a contract is signed and initial booking estimates are not updated in future periods for changes between estimated and actual results. Our calculations have varying degrees of certainty depending on the revenue type and individual contract terms. They are subject to a number of risks and uncertainties concerning timing and contingencies affecting product delivery and performance, and estimates consider contract terms, knowledge of the marketplace and experience with our customers, among other factors. Actual revenue and the timing thereof could differ materially from our initial estimates.

Although many of our contracts contain non-cancelable terms, most of our bookings are transactional or service related that depend upon estimates such as volume of transactions, number of active accounts, or number of hours incurred. Since these estimates cannot be considered fixed or firm, we do not believe it is appropriate to characterize bookings as backlog. The following paragraphs discuss the key assumptions used to calculate bookings and the susceptibility of these assumptions to variability for each revenue type.

Transactional and Maintenance Bookings

We calculate transactional bookings as the total estimated volume of transactions or number of accounts under contract, multiplied by the contractual rate. Transactional contracts generally span multiple years and require estimates of future transaction volumes or number of active accounts. We develop estimates from discussions with our customers and examinations of historical data from similar products and customer arrangements. Differences between estimated bookings and actual results occur due to variability in the volume of transactions or number of active accounts estimated. This variability is primarily caused by the economic trends in our customers' industries; individual performance of our customers relative to their competitors; and regulatory and other factors that affect the business environment in which our customers operate.

We calculate maintenance bookings directly from the terms stated in the contract.

Professional Services Bookings

We calculate professional services bookings as the estimated number of hours to complete a project multiplied by the rate per hour. We estimate the number of hours based on our understanding of the project scope, conversations with customer personnel and our experience in estimating professional services projects. Estimated bookings may differ from actual results primarily due to differences in the actual number of hours incurred.

License Bookings

Licenses are sold on a perpetual or term basis and bookings generally equal the fixed amount stated in the contract.

Bookings Trend Analysis

	Bookings (In millions)	Bookings Yield (1)	Number of Bookings over \$1 Million	Weighted- Average Term (2) (months)
Quarter ended September 30, 2019	\$ 160.4	15%	34	34
Quarter ended September 30, 2018	\$ 133.5	11%	24	31
Year ended September 30, 2019	\$ 481.7	31%	95	NM ^(a)
Year ended September 30, 2018	\$ 437.3	29%	80	NM ^(a)

(1) Bookings yield represents the percentage of revenue recognized from bookings for the periods indicated.

(2) Weighted-average term of bookings measures the average term over which bookings are expected to be recognized as revenue.

(a) NM - Measure is not meaningful as our estimate of bookings is as of the end of the period in which a contract is signed, and we do not update our initial booking estimates in future periods for changes between estimated and actual results.

Transactional and maintenance bookings were 48% and 46% of total bookings for the years ended September 30, 2019 and 2018, respectively. Professional services bookings were 39% and 43% of total bookings for the years ended September 30, 2019 and 2018, respectively. License bookings were 13% and 11% of total bookings for the years ended September 30, 2019 and 2018, respectively.

RESULTS OF OPERATIONS

We are organized into the following three reportable segments: Applications, Scores and Decision Management Software. Although we sell solutions and services into a large number of end user product and industry markets, our reportable business segments reflect the primary method in which management organizes and evaluates internal financial information to make operating decisions and assess performance. Segment revenues, operating income, and related financial information, including disaggregation of revenue, for the years ended September 30, 2019, 2018 and 2017 are set forth in Note 15 to the accompanying consolidated financial statements.

Revenues

The following tables set forth certain summary information on a segment basis related to our revenues for fiscal 2019, 2018 and 2017:

Segment	Revenues Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted		As Adjusted	As Adjusted			As Adjusted
	(In thousands)			(In thousands)			
Applications	\$ 605,034	\$ 564,375	\$ 560,634	\$ 40,659	\$ 3,741	7%	1 %
Scores	421,177	335,870	259,537	85,307	76,333	25%	29 %
Decision Management Software	133,872	99,901	114,812	33,971	(14,911)	34%	(13)%
Total	\$ 1,160,083	\$ 1,000,146	\$ 934,983	159,937	65,163	16%	7 %

Segment	Percentage of Revenues Year Ended September 30,		
	2019	2018	2017
		As Adjusted	As Adjusted
Applications	52%	56%	60%
Scores	36%	34%	28%
Decision Management Software	12%	10%	12%
Total	100%	100%	100%

Applications

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted			As Adjusted		As Adjusted	
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 395,398	\$ 372,283	\$ 335,560	\$ 23,115	\$ 36,723	6 %	11 %
Professional services	137,258	142,736	140,990	(5,478)	1,746	(4)%	1 %
License	72,378	49,356	84,084	23,022	(34,728)	47 %	(41)%
Total	\$ 605,034	\$ 564,375	\$ 560,634	40,659	3,741	7 %	1 %

Applications segment revenues increased \$40.7 million in fiscal 2019 from 2018 primarily due to a \$50.6 million increase in our fraud solutions and a \$7.3 million increase in our customer communication services, partially offset by an \$8.7 million decrease in our customer management solutions and a \$7.6 million decrease in our originations solutions. The increase in fraud solutions was primarily attributable to an increase in license and transactional revenues. The increase in customer communication services was primarily attributable to an increase in transactional revenue. The decrease in customer management solutions was primarily attributable to a decrease in license and services revenues. The decrease in originations solutions was primarily attributable to a decrease in services revenues.

Applications segment revenues increased \$3.7 million in fiscal 2018 from 2017 primarily due to an \$11.5 million increase in our customer communication services, a \$6.6 million increase in our customer management solutions, a \$6.3 million increase in our originations solutions, a \$6.0 million increase in our compliance solutions, and a \$3.2 million increase in our collections & recovery solutions, partially offset by a \$29.9 million decrease in our fraud solutions. The increase in customer communication services was primarily attributable to an increase in transactional revenue. The increase in customer management solutions was primarily attributable to an increase in license and transactional revenues. The increase in originations solutions was primarily attributable to an increase in transactional and services revenues from our SaaS products. The increase in collections & recovery solutions was primarily attributable to an increase in license revenue. The increase in compliance solutions was attributable to an increase in all revenue types. The decrease in fraud solutions was primarily attributable to a decrease in license revenue.

Scores

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted			As Adjusted		As Adjusted	
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 415,288	\$ 331,662	\$ 254,424	\$ 83,626	\$ 77,238	25%	30 %
Professional services	2,157	1,900	2,869	257	(969)	14%	(34)%
License	3,732	2,308	2,244	1,424	64	62%	3 %
Total	\$ 421,177	\$ 335,870	\$ 259,537	85,307	76,333	25%	29 %

Scores segment revenues increased \$85.3 million in fiscal 2019 from 2018 due to an increase of \$77.4 million in our business-to-business scores revenue and \$7.9 million in our business-to-consumer services revenue. The increase in business-to-business scores was primarily attributable to a higher unit price in mortgage and auto activities. The increase in business-to-consumer services was primarily attributable to an increase in royalties derived from scores sold indirectly to consumers through credit reporting agencies.

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Scores segment revenues increased \$76.3 million in fiscal 2018 from 2017 due to an increase of \$60.8 million in our business-to-business scores revenue and \$15.5 million in our business-to-consumer services revenue. The increase in business-to-business scores was primarily attributable to a \$48.1 million increase in transactional scores in originations, primarily driven by a higher unit price in mortgage activities; in addition, transactional scores in account management and prescreen increased \$13.1 million driven by higher transactional volume. The increase in business-to-consumer services was primarily attributable to an increase in royalties derived from scores sold indirectly to consumers through credit reporting agencies.

During fiscal 2019, 2018 and 2017, revenues generated from our agreements with Experian accounted for 13%, 11% and 9%, respectively, of our total revenues, and revenues generated from our agreements with Equifax and TransUnion together accounted for 16%, 14% and 11%, respectively, of our total revenues. Revenues from these customers included amounts recorded in our other segments.

Decision Management Software

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted			As Adjusted		As Adjusted	
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 50,262	\$ 46,658	\$ 43,943	\$ 3,604	\$ 2,715	8%	6%
Professional services	44,680	32,274	34,045	12,406	(1,771)	38%	(5)%
License	38,930	20,969	36,824	17,961	(15,855)	86%	(43)%
Total	\$ 133,872	\$ 99,901	\$ 114,812	33,971	(14,911)	34%	(13)%

Decision Management Software segment revenues increased \$34.0 million primarily attributable to an increase in both of our license sales and SaaS subscription revenue, as well as an increase in services revenues related to our Decision Management Platform product.

Decision Management Software segment revenues decreased \$14.9 million in fiscal 2018 from 2017 primarily attributable to a decrease in license revenue related to our FICO® Blaze Advisor®.

Operating Expenses and Other Income (Expense), Net

The following tables set forth certain summary information related to our consolidated statements of income and comprehensive income for the fiscal years 2019, 2018 and 2017:

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted		As Adjusted	As Adjusted		As Adjusted	
	(In thousands, except employees)			(In thousands, except employees)			
Revenues	\$ 1,160,083	\$ 1,000,146	\$ 934,983	\$ 159,937	\$ 65,163	16 %	7 %
Operating expenses:							
Cost of revenues	336,845	312,898	287,607	23,947	25,291	8 %	9 %
Research and development	149,478	128,383	110,870	21,095	17,513	16 %	16 %
Selling, general and administrative	414,086	376,912	337,167	37,174	39,745	10 %	12 %
Amortization of intangible assets	6,126	6,594	12,709	(468)	(6,115)	(7)%	(48)%
Restructuring and acquisition-related	—	—	4,471	—	(4,471)	— %	(100)%
Total operating expenses	906,535	824,787	752,824	81,748	71,963	10 %	10 %
Operating income	253,548	175,359	182,159	78,189	(6,800)	45 %	(4)%
Interest expense, net	(39,752)	(31,311)	(25,790)	(8,441)	(5,521)	27 %	21 %
Other income (expense), net	2,276	12,884	(86)	(10,608)	12,970	(82)%	(15,081)%
Income before income taxes	216,072	156,932	156,283	59,140	649	38 %	— %
Provision for income taxes	23,948	30,450	22,869	(6,502)	7,581	(21)%	33 %
Net income	\$ 192,124	\$ 126,482	\$ 133,414	65,642	(6,932)	52 %	(5)%
Number of employees at fiscal year-end	4,009	3,668	3,299	341	369	9 %	11 %

	Percentage of Revenues Year Ended September 30,		
	2019	2018	2017
	As Adjusted		As Adjusted
Revenues	100 %	100 %	100 %
Operating expenses:			
Cost of revenues	29 %	31 %	31 %
Research and development	13 %	13 %	12 %
Selling, general and administrative	35 %	37 %	36 %
Amortization of intangible assets	1 %	1 %	1 %
Restructuring and acquisition-related	— %	— %	1 %
Total operating expenses	78 %	82 %	81 %
Operating income	22 %	18 %	19 %
Interest expense, net	(3)%	(3)%	(3)%
Other income (expense), net	— %	1 %	— %
Income before income taxes	19 %	16 %	16 %
Provision for income taxes	2 %	3 %	2 %
Net income	17 %	13 %	14 %

Cost of Revenues

Cost of revenues consists primarily of employee salaries and benefits for personnel directly involved in developing, installing and supporting revenue products; travel costs; overhead costs; outside services; internal network hosting costs; software royalty fees; and credit bureau data and processing services.

The fiscal 2019 over 2018 increase of \$23.9 million in cost of revenues expenses was primarily attributable to a \$13.9 million increase in personnel and labor costs and a \$6.7 million increase in facilities and infrastructure costs. The increase in personnel and labor costs was primarily attributable to an increase in headcount. The increase in facilities and infrastructure costs was primarily attributable to increased resource requirement due to expansion in our cloud infrastructure operations. Cost of revenues as a percentage of revenues decreased to 29% during fiscal 2019 from 31% during fiscal 2018 primarily due to increased sales of our high-margin Scores and software products.

The fiscal 2018 over 2017 increase of \$25.3 million in cost of revenues expenses was primarily attributable to a \$13.4 million increase in facilities and infrastructure costs and a \$9.4 million increase in personnel and labor costs. The increase in facilities and infrastructure costs was primarily attributable to increased resource requirement due to expansion in our cloud infrastructure operations. The increase in personnel and labor costs was primarily attributable to an increase in incentive cost and share-based compensation costs. Cost of revenues as a percentage of revenues was 31% during fiscal 2018, consistent with that incurred during fiscal 2017.

Research and Development

Research and development expenses include the personnel and related overhead costs incurred in the development of new products and services, including the research of mathematical and statistical models and the development of new versions of our products.

The fiscal 2019 over 2018 increase of \$21.1 million in research and development expenses was primarily attributable to a \$15.6 million increase in personnel and labor costs as a result of increased headcount, and a \$3.5 million increase in facilities and infrastructure cost. Research and development expenses as a percentage of revenues was 13% during fiscal 2019, consistent with that incurred during fiscal 2018.

The fiscal 2018 over 2017 increase of \$17.5 million in research and development expenses was primarily attributable to a \$14.8 million increase in personnel and labor costs as a result of our continued investment in the areas of cloud computing and SaaS, as well as new products. Research and development expenses as a percentage of revenues was 13% during fiscal 2018, materially consistent with those incurred during fiscal 2017.

Selling, General and Administrative

Selling, general and administrative expenses consist principally of employee salaries and benefits; travel costs; overhead costs; advertising and other promotional expenses; corporate facilities expenses; legal expenses; business development expenses and the cost of operating computer systems.

The fiscal 2019 over 2018 increase of \$37.2 million was primarily attributable to an increase in personnel and labor costs as a result of increased headcount, higher share-based compensation and higher non-capitalizable commission cost. Selling, general and administrative expenses as a percentage of revenues decreased to 35% during fiscal 2019 from 37% during fiscal 2018 primarily due to increased sales of our high-margin Scores and software products.

The fiscal 2018 over 2017 increase of \$39.7 million was primarily attributable to a \$27.4 million increase in personnel and labor costs as a result of increased headcount, higher share-based compensation and incentive costs; as well as a \$10.1 million increase in marketing and travel costs, primarily driven by a company-wide marketing event during fiscal 2018. Selling, general and administrative expenses as a percentage of revenues was 37% during fiscal 2018, materially consistent with those incurred during fiscal 2017.

Amortization of Intangible Assets

Amortization of intangible assets consists of expense related to intangible assets recorded in connection with our acquisitions. Our finite-lived intangible assets consist primarily of completed technology and customer contracts and relationships, which are being amortized using the straight-line method over periods ranging from four to fifteen years.

Amortization expense was \$6.2 million, \$6.6 million and \$12.7 million for fiscal 2019, 2018 and 2017 respectively. The fiscal 2018 over fiscal 2017 decrease of \$6.1 million was primarily attributable to certain intangible assets associated with our Adepra and HNC acquisitions becoming fully amortized in fiscal 2017.

Restructuring and Acquisition-Related

There were no restructuring or acquisition-related expenses incurred during fiscal 2019 and 2018.

During fiscal 2017, we incurred net charges totaling \$4.5 million consisting of \$1.7 million in facilities charges associated with vacating excess leased space in San Rafael, California and \$2.8 million in employee separation costs due to the elimination of 79 positions throughout the Company. Cash payments for all the facilities charges will be paid by the end of fiscal 2020. Cash payments for all the employee separation costs were paid before the end of the second quarter of fiscal 2018. There were no acquisition-related expenses incurred during fiscal 2017.

Interest Expense, Net

Interest expense includes primarily interest on the senior notes issued in May 2008, July 2010 and May 2018, as well as interest and credit facility fees on the revolving line of credit. On our consolidated statements of income and comprehensive income, interest expense is netted with interest income, which is derived primarily from the investment of funds in excess of our immediate operating requirements.

The fiscal 2019 over 2018 increase in net interest expense of \$8.4 million was primarily attributable to a higher average outstanding debt balance during fiscal 2019, as well as a higher average interest rate on our 2018 Senior Notes compared to that on our revolving line of credit.

The fiscal 2018 over 2017 increase in net interest expense of \$5.5 million was primarily attributable to a higher average outstanding debt balance during fiscal 2018, as well as a higher average interest rate on our 2018 Senior Notes compared to that on our revolving line of credit.

Other Income (Expense), Net

Other income (expense), net consists primarily of realized investment gains/losses and unrealized gains/losses on certain investments classified as trading securities, exchange rate gains/losses resulting from re-measurement of foreign-currency-denominated receivable and cash balances held by our various reporting entities into their respective functional currencies at period-end market rates, net of the impact of offsetting foreign currency forward contracts, and other non-operating items.

The fiscal 2019 over 2018 decrease in other income (expense), net of \$10.6 million was primarily attributable to a non-operating gain related to the divestiture of an investment during fiscal 2018.

The fiscal 2018 over 2017 change in other income (expense), net of \$13.0 million was primarily attributable to a non-operating gain related to the divestiture of an investment, as well as an increase in foreign currency exchange gain during fiscal 2018.

Provision for Income Taxes

Our effective tax rates were 11.1%, 19.4% and 14.6% in fiscal 2019, 2018 and 2017, respectively.

The decrease in our income tax provision in fiscal 2019 compared to fiscal 2018 is due to the decrease in the overall federal tax rate from the blended 24.5% in fiscal 2018 to 21% in fiscal 2019 and the recording of several one-time items in fiscal 2018 related to the enactment of the Tax Cuts and Jobs Act of 2017 (the "Tax Act").

The increase in our income tax provision in fiscal 2018 compared to fiscal 2017 was primarily due to recording the impact related to the enactment of the Tax Act in fiscal 2018. This includes re-measurement to our deferred for the tax rate changes, the one-time deemed repatriation transition tax, and the loss of deductibility of performance-based compensation for certain employees.

As of September 30, 2019, we have approximately \$95.6 million of unremitted earnings of non-U.S. subsidiaries. The Company generates substantial cash flow in the U.S. and does not have a current need for the cash to be returned to the U.S. from the foreign entities. In the event these earnings are later remitted to the U.S., any estimated withholding tax on remittance of those earnings is expected to be immaterial to the income tax provision.

Operating Income

The following tables set forth certain summary information on a segment basis related to our operating income for the fiscal 2019, 2018 and 2017:

Segment	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2019	2018	2017	2019 to 2018	2018 to 2017	2019 to 2018	2018 to 2017
	As Adjusted			As Adjusted		As Adjusted	
	(In thousands)			(In thousands)			
Applications	\$ 161,162	\$ 143,964	\$ 168,327	\$ 17,198	\$ (24,363)	12 %	(14)%
Scores	361,356	272,418	205,168	88,938	67,250	33 %	33 %
Decision Management Software	(35,116)	(34,360)	(8,027)	(756)	(26,333)	2 %	328 %
Unallocated corporate expenses	(144,755)	(125,255)	(104,907)	(19,500)	(20,348)	16 %	19 %
Total segment operating income	342,647	256,767	260,561	85,880	(3,794)	33 %	(1)%
Unallocated share-based compensation	(82,973)	(74,814)	(61,222)	(8,159)	(13,592)	11 %	22 %
Unallocated amortization expense	(6,126)	(6,594)	(12,709)	468	6,115	(7)%	(48)%
Unallocated restructuring and acquisition-related	—	—	(4,471)	—	4,471	— %	(100)%
Operating income	\$ 253,548	\$ 175,359	\$ 182,159	78,189	(6,800)	45 %	(4)%

Applications

	Year Ended September 30,			Percentage of Revenues		
	2019	2018	2017	2019	2018	2017
	As Adjusted			As Adjusted		
	(In thousands)					
Segment revenues	\$ 605,034	\$ 564,375	\$ 560,634	100 %	100 %	100 %
Segment operating expenses	(443,872)	(420,411)	(392,307)	(73)%	(74)%	(70)%
Segment operating income	\$ 161,162	\$ 143,964	\$ 168,327	27 %	26 %	30 %

Scores

	Year Ended September 30,			Percentage of Revenues		
	2019	2018	2017	2019	2018	2017
	As Adjusted			As Adjusted		
	(In thousands)					
Segment revenues	\$ 421,177	\$ 335,870	\$ 259,537	100 %	100 %	100 %
Segment operating expenses	(59,821)	(63,452)	(54,369)	(14)%	(19)%	(21)%
Segment operating income	\$ 361,356	\$ 272,418	\$ 205,168	86 %	81 %	79 %

Decision Management Software

	Year Ended September 30,			Percentage of Revenues		
	2019	2018	2017	2019	2018	2017
	As Adjusted			As Adjusted		
	(In thousands)					
Segment revenues	\$ 133,872	\$ 99,901	\$ 114,812	100 %	100 %	100 %
Segment operating expenses	(168,988)	(134,261)	(122,839)	(126)%	(134)%	(107)%
Segment operating loss	\$ (35,116)	\$ (34,360)	\$ (8,027)	(26)%	(34)%	(7)%

The fiscal 2019 over 2018 increase in operating income of \$78.2 million was attributable to a \$160.0 million increase in segment revenues and a \$0.5 million decrease in amortization expense, partially offset by a \$54.6 million increase in segment operating expenses, a \$19.5 million increase in unallocated corporate expenses and an \$8.2 million increase in share-based compensation expense.

At the segment level, the \$85.9 million increase in segment operating income was the result of an \$88.9 million increase in our Scores segment operating income and a \$17.2 million increase in our Applications segment operating income, partially offset by a \$19.5 million increase in unallocated corporate expenses primarily driven by an increase in unallocated incentive cost and a \$0.7 million increase in our Decision Management Software segment operating loss.

The \$17.2 million increase in Applications segment operating income was attributable to a \$40.7 million increase in segment revenue, partially offset by a \$23.5 million increase in segment operating expenses. Segment operating income as a percentage of segment revenue for Applications increased to 27% from 26% mainly due to an increase in sales of our higher-margin software products.

The \$88.9 million increase in Scores segment operating income was attributable to an \$85.3 million increase in segment revenue as well as a \$3.6 million decrease in segment operating expenses. Segment operating income as a percentage of segment revenue for Scores increased to 86% from 81% mainly due to an increase in sales of our higher-margin score products.

The \$0.7 million increase in Decision Management Software segment operating loss was attributable to a \$34.7 million increase in segment operating expenses, partially offset by a \$34.0 million increase in segment revenue. Segment operating margin for Decision Management Software improved to a negative 26% from a negative 34% mainly due to an increase in sales of our higher-margin software products, partially offset by our continued investment in cloud infrastructure operations and new products.

The fiscal 2018 over 2017 decrease in operating income of \$6.8 million was attributable to a \$48.6 million increase in segment operating expenses, a \$20.3 million increase in unallocated corporate expenses and a \$13.6 million increase in share-based compensation expense, partially offset by a \$65.1 million increase in segment revenues, a \$6.1 million decrease in amortization expense and a \$4.5 million decrease in restructuring and acquisition-related expenses.

At the segment level, the \$3.8 million decrease in segment operating income was the result of a \$26.3 million increase in our Decision Management Software segment operating loss, a \$24.4 million decrease in our Applications segment operating income, and a \$20.3 million increase in unallocated corporate expenses primarily driven by an increase in unallocated incentive cost and a one-time settlement during fiscal 2017, partially offset by a \$67.2 million increase in our Scores segment operating income.

The \$24.4 million decrease in Applications segment operating income was attributable to a \$28.1 million increase in segment operating expenses, partially offset by a \$3.7 million increase in segment revenue. Segment operating income as a percentage of segment revenue for Applications decreased to 26% from 30% mainly due to a decrease in sales of our higher-margin software products.

The \$67.2 million increase in Scores segment operating income was attributable to a \$76.3 million increase in segment revenue, partially offset by a \$9.1 million increase in segment operating expenses. Segment operating income as a percentage of segment revenue for Scores increased to 81% from 79% mainly due to an increase in sales of our higher-margin score products.

The \$26.3 million increase in Decision Management Software segment operating loss was attributable to a \$14.9 million decrease in segment revenue and an \$11.4 million increase in segment operating expenses. Segment operating margin for Decision Management Software decreased to a negative 34% from a negative 7% mainly due to a decrease in sales of our higher-margin software products, as well as our continued investment in cloud infrastructure operations and new products.

CAPITAL RESOURCES AND LIQUIDITY**Outlook**

As of September 30, 2019, we had \$106.4 million in cash and cash equivalents, which included \$81.1 million held off-shore by our foreign subsidiaries. We believe these balances, as well as available borrowings from our \$400 million revolving line of credit and anticipated cash flows from operating activities, will be sufficient to fund our working and other capital requirements as well as the \$85.0 million principal payment due in July 2020 on our senior notes issued in July 2010. Under our current financing arrangements, we have no other significant debt obligations maturing over the next twelve months. Additionally, though we do not anticipate the need to repatriate any undistributed earnings from our foreign subsidiaries for the foreseeable future, we may take advantage of opportunities where we are able to repatriate these earnings to the U.S. without material incremental tax provision.

In the normal course of business, we evaluate the merits of acquiring technology or businesses, or establishing strategic relationships with or investing in these businesses. We may elect to use available cash and cash equivalents to fund such activities in the future. In the event additional needs for cash arise, or if we refinance our existing debt, we may raise additional funds from a combination of sources, including the potential issuance of debt or equity securities. Additional financing might not be available on terms favorable to us, or at all. If adequate funds were not available or were not available on acceptable terms, our ability to take advantage of unanticipated opportunities or respond to competitive pressures could be limited.

Summary of Cash Flows

	Year Ended September 30,		
	2019	2018	2017
	(In thousands)		
Cash provided by (used in):			
Operating activities	\$ 260,350	\$ 223,052	\$ 225,644
Investing activities	(42,760)	(14,119)	(20,605)
Financing activities	(200,047)	(218,627)	(180,625)
Effect of exchange rate changes on cash	(1,140)	(5,901)	5,278
Increase (decrease) in cash and cash equivalents	\$ 16,403	\$ (15,595)	\$ 29,692

Cash Flows from Operating Activities

Our primary method for funding operations and growth has been through cash flows generated from operating activities. Net cash provided by operating activities totaled \$260.4 million in fiscal 2019 compared to \$223.1 million in fiscal 2018. The \$37.3 million increase was attributable to a \$65.6 increase in net income as well as an \$18.7 million increase in non-cash items, partially offset by a \$47.0 million decrease that resulted from timing of receipts and payments in our ordinary course of business.

Net cash provided by operating activities totaled \$223.1 million in fiscal 2018 compared to \$225.6 million in fiscal 2017. The \$2.5 million decrease was attributable to a \$7.8 million decrease that resulted from timing of receipts and payments in our ordinary course of business and a \$6.9 million decrease in net income, partially offset by a \$12.2 million increase in non-cash items.

Cash Flows from Investing Activities

Net cash used in investing activities totaled \$42.8 million in fiscal 2019 compared to \$14.1 million in fiscal 2018. The \$28.7 million increase was primarily attributable to a \$20.0 million decrease in proceeds from the sale of cost method investment and a \$15.9 million increase in net cash used for acquisition, partially offset by a \$7.3 million decrease in net cash used for purchases of property and equipment.

Net cash used in investing activities totaled \$14.1 million in fiscal 2018 compared to \$20.6 million in fiscal 2017. The \$6.5 million decrease was primarily attributable to a \$20.0 million increase in proceeds from the sale of cost method investment, partially offset by an \$11.5 million increase in net cash used for purchases of property and equipment as well as a \$2.8 million increase in purchases, net of proceeds from sale, of marketable securities.

Cash Flows from Financing Activities

Net cash used in financing activities totaled \$200.0 million in fiscal 2019 compared to \$218.6 million in fiscal 2018. The \$18.6 million decrease was primarily due to a \$192.0 million decrease in payments, net of proceeds, on our revolving line of credit, a \$113.7 million decrease in net cash used for repurchases of common stock and an \$11.8 million increase in proceeds from issuance of treasury stock under employee stock plans, partially offset by a \$297.0 million decrease in proceeds, net of payments, from our senior notes.

Net cash used in financing activities totaled \$218.6 million in fiscal 2018 compared to \$180.6 million in fiscal 2017. The \$38.0 million increase was primarily due to a \$210.0 million increase in payments, net of proceeds, on our revolving line of credit, a \$155.0 million increase in net cash used for repurchases of common stock and a \$7.8 million increase in debt issuance cost, partially offset by a \$341.0 million increase in proceeds, net of payments, from our senior notes.

Repurchases of Common Stock

In July 2018, our Board of Directors approved a stock repurchase program following the completion of the previously authorized program. This program was open-ended and authorizes repurchases of shares of our common stock up to an aggregate cost of \$250.0 million in the open market or in negotiated transactions. In July 2019, our Board of Directors approved a new stock repurchase program following the completion of the July 2018 program. This program is open-ended and authorizes repurchases of shares of our common stock up to an aggregate cost of \$250.0 million in the open market or in negotiated transactions. As of September 30, 2019, we had \$220.3 million remaining under this authorization. During fiscal 2019, 2018 and 2017, we expended \$228.9 million, \$336.9 million and \$193.3 million, respectively, under these and previously authorized stock repurchase programs.

Dividends

We paid dividends of \$0.02 per share on a quarterly basis during the first two quarters of our fiscal 2017. In May 2017, our Board of Directors discontinued cash dividend payments in favor of using our excess cash flow for share repurchases.

Revolving Line of Credit

On May 8, 2018, we amended our credit agreement with a syndicate of banks, extending the maturity date of the unsecured revolving line of credit from December 30, 2019 to May 8, 2023, while reducing our borrowing capacity to \$400 million with an option to increase it by another \$100 million. Proceeds from the credit facility can be used for working capital and general corporate purposes and may also be used for the refinancing of existing debt, acquisitions and the repurchase of our common stock. Interest on amounts borrowed under the credit facility is based on (i) a base rate, which is the greater of (a) the prime rate, (b) the Federal Funds rate plus 0.500% and (c) the one-month LIBOR rate plus 1.000%, plus, in each case, an applicable margin, or (ii) an adjusted LIBOR rate plus an applicable margin. The applicable margin for base rate borrowings ranges from 0% to 0.875% and for LIBOR borrowings ranges from 1.000% to 1.875%, and is determined based on our consolidated leverage ratio. In addition, we must pay credit facility fees. The credit facility contains certain restrictive covenants including maintaining a maximum consolidated leverage ratio of 3.25, subject to a step up to 3.75 following certain permitted acquisitions; and a minimum fixed charge ratio of 2.50 through the maturity of our 2010 Senior Notes in July 2020 (as defined below), upon which maintaining a minimum interest coverage ratio of 3.00. The credit agreement also contains other covenants typical of unsecured facilities. As of September 30, 2019, we had \$345.0 million in borrowings outstanding at a weighted average interest rate of 3.423% and were in compliance with all financial covenants under this credit facility.

Senior Notes

On July 14, 2010, we issued \$245 million of senior notes in a private placement to a group of institutional investors (the "2010 Senior Notes"). The 2010 Senior Notes were issued in four series with maturities ranging from 6 to 10 years. The outstanding 2010 Senior Notes' weighted average interest rate is 5.59% and the weighted average maturity is 10 years. The 2010 Senior Notes require interest payments semi-annually and contain certain restrictive covenants, including the maintenance of a maximum consolidated net debt to consolidated EBITDA ratio of 3.00 and a minimum fixed charge coverage ratio of 2.50. On May 8, 2018, we issued \$400 million of senior notes in a private offering to qualified institutional investors (the "2018 Senior Notes", and with the 2010 Senior Notes, the "Senior Notes"). The 2018 Senior Notes require interest payments semi-annually at a rate of 5.25% per annum and will mature on May 15, 2026. The purchase agreement for the 2010 Senior Notes and the indenture for the 2018 Senior Notes contain certain covenants typical of unsecured obligations. As of September 30, 2019, the carrying value of the Senior Notes was \$485.0 million and we were in compliance with all financial covenants under the purchase agreement and the indenture, respectively.

Contractual Obligations

The following table presents a summary of our contractual obligations at September 30, 2019:

	Year Ending September 30,						Total
	2020	2021	2022	2023	2024	Thereafter	
	(In thousands)						
Senior notes (1)	\$ 85,000	\$ —	\$ —	\$ —	\$ —	\$ 400,000	\$ 485,000
Revolving line of credit				345,000			
Interest due on debt obligations (2)	25,752	21,000	21,000	21,000	21,000	42,000	151,752
Capital lease obligations	1,935	1,934	1,934	—	—	—	5,803
Operating lease obligations	19,842	19,969	17,677	16,940	14,887	24,431	113,746
Purchase obligations (3)	7,000						
Unrecognized tax benefits (4)	—	—	—	—	—	—	5,834
Total commitments	\$ 139,529	\$ 42,903	\$ 40,611	\$ 382,940	\$ 35,887	\$ 466,431	\$ 762,135

- (1) Represents the unpaid principal amount of the Senior Notes.
- (2) Represents interest payments on the Senior Notes.
- (3) Represents amounts associated with agreements that are enforceable, legally binding and specify terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the payments.
- (4) Represents unrecognized tax benefits related to uncertain tax positions. As we are not able to reasonably estimate the timing of the payments or the amount by which the liability will increase or decrease over time, the related balances have not been reflected in the section of the table showing payment by fiscal year.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures, or capital resources.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We prepare our consolidated financial statements in conformity with U.S. generally accepted accounting principles. These accounting principles require management to make certain judgments and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. We periodically evaluate our estimates including those relating to revenue recognition, goodwill and other intangible assets resulting from business acquisitions, share-based compensation, income taxes and contingencies and litigation. We base our estimates on historical experience and various other assumptions that we believe to be reasonable based on the specific circumstances, the results of which form the basis for making judgments about the carrying value of certain assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

We believe the following critical accounting policies involve the most significant judgments and estimates used in the preparation of our consolidated financial statements:

Revenue Recognition

Contracts with Customers

Our revenue is primarily derived from term-based or perpetual licensing of software and scoring products and solutions, and associated maintenance; SaaS subscription services; scoring and credit monitoring services for consumers; and professional services. For contracts with customers that contain various combinations of products and services, we evaluate whether the products or services are distinct—distinct products or services will be accounted for as separate performance obligations, while non-distinct products or services are combined with others to form a single performance obligation. For contracts with multiple performance obligations, the transaction price is allocated to each performance obligation on a relative standalone selling price (“SSP”) basis. Revenue is recognized when control of the promised goods or services is transferred to our customers.

License revenue is derived from contracts in which we grant our direct customers or distributors the right to deploy or resell our software and scoring products and solutions on-premises. Our software offerings often include a perpetual or term-based license and post-contract support or maintenance, both of which generally represent distinct performance obligations and are accounted for separately. The transaction price is either in the form of a fixed consideration with separate stated prices for license and maintenance, or a sales or usage-based royalty—sometimes subject to a guaranteed minimum—for the license and maintenance bundle. When the amount is in the form of a fixed consideration, including the guaranteed minimum in sales or usage-based royalty, license revenue from distinct on-premises license is recognized at the point in time when the software or scoring solution is made available to the customer or distributor. Any royalties not subject to the guaranteed minimum or earned in excess of the minimum amount are recognized as transactional revenue when the subsequent sales or usage occurs. Revenue allocated to maintenance is generally recognized ratably over the contract period as customers simultaneously consume and receive benefits.

In addition to sales or usage-based royalty on our software and scoring products, transactional revenue is also derived from SaaS contracts in which we provide customers with access to and standard support for our software application either in the FICO® Analytic Cloud or AWS, our primary cloud infrastructure provider, on a subscription basis. The transaction price typically includes a fixed consideration in the form of a guaranteed minimum that allows up to a certain level of usage and a variable consideration in the form of usage or transaction-based fees in excess of the minimum threshold; or usage or transaction-based variable amount not subject to a minimum threshold. We determined the nature of our SaaS arrangements is to provide continuous access to our hosted application in the cloud, i.e., a stand-ready obligation that comprises a series of distinct service periods (e.g., a series of distinct daily, monthly or annual periods of service). We estimate the total variable consideration at contract inception—subject to any constraints that may apply—and update the estimates as new information becomes available and recognize the amount ratably over the SaaS service period, unless we determine it is appropriate to allocate the variable amount to each distinct service period and recognize revenue as each distinct service period is performed.

We also derive transactional revenue from credit scoring and monitoring services that provide consumers access to their credit reports and enable them to monitor their credit. These are provided as either a one-time or ongoing subscription service renewed monthly or annually, all with a fixed consideration. We determined the nature of the subscription service is a stand-ready obligation to generate credit reports, provide credit monitoring and other services for our customers, which comprises a series of distinct service periods (e.g., a series of distinct daily, monthly or annual periods of service). Revenue from one-time or monthly subscription services is recognized during the period when service is performed. Revenue from annual subscription services is recognized ratably over the subscription period.

Professional services include software or SaaS implementation, consulting, model development, training services and premium cloud support. They are sold either standalone, or together with other products or services and generally represent distinct performance obligations. The transaction price can be a fixed amount or on a time and materials basis. Revenue on fixed-price services is recognized using an input method based on labor hours expended which we believe provides a faithful depiction of the transfer of services. Revenue on services provided on a time and materials basis is recognized applying the “right-to-invoice” practical expedient as the amount to which we have a right to invoice the customer corresponds directly with the value of our performance to the customer. In addition, we sell premium cloud support on a subscription basis for a fixed amount, and revenue is recognized ratably over the contract term.

Significant Judgments

Our contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct and should be accounted for separately may require significant judgment. Specifically, when implementation service is included in the original software or SaaS offerings, judgment is required to determine if the implementation service significantly modifies or customizes the software or SaaS service in such a way that the risks of providing it and the customization service are inseparable. In rare instances, contracts may include significant modification or customization of the software or SaaS service and will result in the combination of software or SaaS service and implementation service as one performance obligation.

We determine the SSPs using data from our historical standalone sales, or, in instances where such information is not available (such as when we do not sell the product or service separately), we consider factors such as the stated contract prices, our overall pricing practices and objectives, go-to-market strategy, size and type of the transactions, and effects of the geographic area on pricing, among others. When the selling price of a product or service is highly variable, we may use the residual approach to determine the SSP of that product or service. Significant judgment may be required to determine the SSP for each distinct performance obligation when it involves the consideration of many market conditions and entity-specific factors discussed above.

Significant judgment may be required to determine the timing of satisfaction of a performance obligation in certain professional services contracts with a fixed consideration, in which we measure progress using an input method based on labor hours expended. In order to estimate the total hours of the project, we make assumptions about labor utilization, efficiency of processes, the customer's specification and IT environment, among others. For certain complex projects, due to the risks and uncertainties inherent with the estimation process and factors relating to the assumptions, actual progress may differ due to the change in estimated total hours. Adjustments to estimates are made in the period in which the facts requiring such revisions become known and, accordingly, recognized revenues are subject to revisions as the contract progresses to completion.

Capitalized Commission Costs

We capitalize incremental commission fees paid as a result of obtaining customer contracts. Capitalized commission costs are amortized on a straight-line basis over ten years — determined using a portfolio approach — based on the transfer of goods or services to which the assets relate, taking into consideration both the initial and future contracts as we do not typically pay a commission on a contract renewal. The amortization costs are included in selling, general, and administrative expenses of our consolidated statements of income and comprehensive income.

We apply a practical expedient to recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less. These costs are recorded within selling, general, and administrative expenses.

Business Combinations

Accounting for our acquisitions requires us to recognize, separately from goodwill, the assets acquired and the liabilities assumed at their acquisition-date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the net of the acquisition-date fair values of the assets acquired and the liabilities assumed. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of income and comprehensive income.

Accounting for business combinations requires our management to make significant estimates and assumptions, especially at the acquisition date, including our estimates for intangible assets, contractual obligations assumed, pre-acquisition contingencies and contingent consideration, where applicable. If we cannot reasonably determine the fair value of a pre-acquisition contingency (non-income tax related) by the end of the measurement period, we will recognize an asset or a liability for such pre-acquisition contingency if: (i) it is probable that an asset existed or a liability had been incurred at the acquisition date and (ii) the amount of the asset or liability can be reasonably estimated. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Subsequent to the measurement period, changes in our estimates of such contingencies will affect earnings and could have a material effect on our consolidated results of operations and financial position.

Examples of critical estimates in valuing certain of the intangible assets we have acquired include but are not limited to: (i) future expected cash flows from software license sales, support agreements, consulting contracts, other customer contracts and acquired developed technologies and patents; (ii) expected costs to develop the in-process research and development into commercially viable products and estimated cash flows from the projects when completed; and (iii) the acquired company's brand and competitive position, as well as assumptions about the period of time the acquired brand will continue to be used in the combined company's product portfolio. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results. Historically, there have been no significant changes in our estimates or assumptions. To the extent a significant acquisition is made during a fiscal year, as appropriate we will expand the discussion to include specific assumptions and inputs used to determine the fair value of our acquired intangible assets.

In addition, uncertain tax positions and tax-related valuation allowances assumed in connection with a business combination are initially estimated as of the acquisition date. We reevaluate these items quarterly based upon facts and circumstances that existed as of the acquisition date with any adjustments to our preliminary estimates being recorded to goodwill provided that we are within the measurement period. Subsequent to the measurement period or our final determination of the tax allowance's or contingency's estimated value, whichever comes first, changes to these uncertain tax positions and tax-related valuation allowances will affect our provision for income taxes in our consolidated statements of income and comprehensive income and could have a material impact on our consolidated results of operations and financial position. Historically, there have been no significant changes in our valuation allowances or uncertain tax positions as it relates to business combinations. We do not believe there is a reasonable likelihood there will be a material change in the future estimates.

Goodwill, Acquisition Intangibles and Other Long-Lived Assets - Impairment Assessment

Goodwill represents the excess of cost over the fair value of identifiable assets acquired and liabilities assumed in business combinations. We assess goodwill for impairment for each of our reporting units on an annual basis during the fourth quarter using a July 1 measurement date unless circumstances require a more frequent measurement. We have determined that our reporting units are the same as our reportable segments. When evaluating goodwill for impairment, we may first perform an assessment qualitatively whether it is more likely than not that a reporting unit's carrying amount exceeds its fair value, referred to as a "step zero" approach. If, based on the review of the qualitative factors, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying value, we would bypass the two-step impairment test. Events and circumstances we consider in performing the "step zero" qualitative assessment include macro-economic conditions, market and industry conditions, internal cost factors, share price fluctuations, and the operational stability and the overall financial performance of the reporting units. If we conclude that it is more likely than not that a reporting unit's fair value is less than its carrying amount, we would perform the first step ("step one") of the two-step impairment test and calculate the estimated fair value of the reporting unit by using discounted cash flow valuation models and by comparing our reporting units to guideline publicly-traded companies. These methods require estimates of our future revenues, profits, capital expenditures, working capital, and other relevant factors, as well as selecting appropriate guideline publicly-traded companies for each reporting unit. We estimate these amounts by evaluating historical trends, current budgets, operating plans, industry data, and other relevant factors. Using assumptions that are different from those used in our estimates, but in each case reasonable, could produce significantly different results and materially affect the determination of fair value and/or goodwill impairment for each reporting unit. For example, if the economic environment impacts our forecasts beyond what we have anticipated, it could cause the fair value of a reporting unit to fall below its respective carrying value.

For fiscal 2017, we elected to proceed directly to the step one quantitative analysis for all of our reporting units, as three years had elapsed since the date of our previous quantitative valuation. There was a substantial excess of fair value over carrying value for each of our reporting units and we determined goodwill was not impaired for any of our reporting units for fiscal 2017. For fiscal 2018 and 2019, we performed a step zero qualitative analysis for our annual assessment of goodwill impairment. After evaluating and weighing all relevant events and circumstances, we concluded that it is not more likely than not that the fair value of any of our reporting units was less their carrying amounts. Consequently, we did not perform a step one quantitative analysis and determined goodwill was not impaired for any of our reporting units for fiscal 2018 and 2019.

Our intangible assets that have finite useful lives and other long-lived assets are assessed for potential impairment when there is evidence that events and circumstances related to our financial performance and economic environment indicate the carrying amount of the assets may not be recoverable. When impairment indicators are identified, we test for impairment using undiscounted cash flows. If such tests indicate impairment, then we measure and record the impairment as the difference between the carrying value of the asset and the fair value of the asset. Significant management judgment is required in forecasting future operating results used in the preparation of the projected cash flows. Should different conditions prevail, material write downs of our intangible assets or other long-lived assets could occur. We review the estimated remaining useful lives of our acquired intangible assets at each reporting period. A reduction in our estimate of remaining useful lives, if any, could result in increased annual amortization expense in future periods. We did not recognize any impairment charges on intangible assets that have finite useful lives or other long-lived assets in fiscal 2019, 2018 and 2017.

As discussed above, while we believe that the assumptions and estimates utilized were appropriate based on the information available to management, different assumptions, judgments and estimates could materially affect our impairment assessments for our goodwill, acquired intangibles with finite lives and other long-lived assets. Historically, there have been no significant changes in our estimates or assumptions that would have had a material impact for our goodwill or intangible assets impairment assessment. We believe our projected operating results and cash flows would need to be significantly less favorable to have a material impact on our impairment assessment. However, based upon our historical experience with operations, we do not believe there is a reasonable likelihood of a significant change in our projections.

Share-Based Compensation

We measure stock-based compensation cost at the grant date based on the fair value of the award and recognize it as expense, net of estimated forfeitures, over the vesting or service period, as applicable, of the stock award (generally three to four years). We use the Black-Scholes valuation model to determine the fair value of our stock options and a Monte Carlo valuation model to determine the fair value of our market share units. Our valuation models and generally accepted valuation techniques require us to make assumptions and to apply judgment to determine the fair value of our awards. These assumptions and judgments include estimating the volatility of our stock price, expected dividend yield, employee turnover rates and employee stock option exercise behaviors. Historically, there have been no material changes in our estimates or assumptions. We do not believe there is a reasonable likelihood there will be a material change in the future estimates or assumptions. See Note 13 to the accompanying consolidated financial statements for further discussion of our share-based employee benefit plans.

Income Taxes

We estimate our income taxes based on the various jurisdictions where we conduct business, which involves significant judgment in determining our income tax provision. We estimate our current tax liability using currently enacted tax rates and laws and assess temporary differences that result from differing treatments of certain items for tax and accounting purposes. These differences result in deferred tax assets and liabilities recorded on our balance sheet using the currently enacted tax rates and laws that will apply to taxable income for the years in which those tax assets are expected to be realized or settled. We then assess the likelihood our deferred tax assets will be realized and to the extent we believe realization is not more likely than not, we establish a valuation allowance. When we establish a valuation allowance or increase this allowance in an accounting period, we record a corresponding income tax expense in our consolidated statements of income and comprehensive income. In assessing the need for the valuation allowance, we consider future taxable income in the jurisdictions we operate; our ability to carry back tax attributes to prior years; an analysis of our deferred tax assets and the periods over which they will be realizable; and ongoing prudent and feasible tax planning strategies. An increase in the valuation allowance would have an adverse impact, which could be material, on our income tax provision and net income in the period in which we record the increase.

On December 22, 2017, the Tax Act was enacted by the U.S. government. The Tax Act makes broad and complex changes to the U.S. tax code that affect our fiscal year ended September 30, 2019, including but not limited to: (1) creating the base erosion anti-abuse tax measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries; (2) creating a new provision designed to tax global intangible low-tax income of foreign subsidiaries; and (3) a foreign derived intangible income. We have estimated the impact of these changes in our income tax provision for 2019.

We recognize and measure benefits for uncertain tax positions using a two-step approach. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the technical merits of the tax position indicate it is more likely than not that the tax position will be sustained upon audit, including resolution of any related appeals or litigation processes. For tax positions more likely than not of being sustained upon audit, the second step is to measure the tax benefit as the largest amount more than 50% likely of being realized upon settlement. Significant judgment is required to evaluate uncertain tax positions and they are evaluated on a quarterly basis. Our evaluations are based upon a number of factors, including changes in facts or circumstances, changes in tax law, correspondence with tax authorities during the course of audits and effective settlement of audit issues. Changes in the recognition or measurement of uncertain tax positions could result in material increases or decreases in our income tax expense in the period in which we make the change, which could have a material impact on our effective tax rate and operating results.

A description of our accounting policies associated with tax-related contingencies and valuation allowances assumed as part of a business combination is provided under “Business Combinations” above.

Contingencies and Litigation

We are subject to various proceedings, lawsuits and claims relating to products and services, technology, labor, stockholder and other matters. We are required to assess the likelihood of any adverse outcomes and the potential range of probable losses in these matters. If the potential loss is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. If the potential loss is considered less than probable or the amount cannot be reasonably estimated, disclosure of the matter is considered. The amount of loss accrual or disclosure, if any, is determined after analysis of each matter, and is subject to adjustment if warranted by new developments or revised strategies. Due to uncertainties related to these matters, accruals or disclosures are based on the best information available at the time. Significant judgment is required in both the assessment of likelihood and in the determination of a range of potential losses. Revisions in the estimates of the potential liabilities could have a material impact on our consolidated financial position or consolidated results of operations. Historically, there have been no material changes in our estimates or assumptions. We do not believe there is a reasonable likelihood there will be a material change in the future estimates.

New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2014-09. The standard’s core principle is that a reporting entity will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from the contracts with customers. The guidance permits two methods of adoption: retrospectively to each prior reporting period presented (“full retrospective method”), or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (“modified retrospective method”).

We adopted ASU 2014-09 in the first quarter of our fiscal 2019 using the full retrospective method which required us to adjust each prior reporting period presented. This adoption primarily affected timing of revenue recognition of license revenue on term licenses and transactional revenue on guaranteed minimum fees related to our on-premises software products. Under the new standard, we recognize revenue when control of the license is transferred to the customer, rather than at the date payments become due and payable when there are extended payment terms, or ratably over the term of the contract as required under the previous standard. In addition, revenue attributable to a software license renewal is recognized at the beginning of the applicable renewal period rather than at the signing of the renewal agreement as required under the previous standard. Additionally, under the new standard, when we enter into noncancellable contracts that provide unconditional rights to payment from our customers for services we have not yet completed or services we will provide in the near future, we present receivables—our unconditional rights to payments—and deferred revenues on a gross basis, rather than on a net basis. Finally, under the new standard we capitalize and amortize contract acquisition costs such as commissions paid for SaaS cloud services contracts in excess of one year. Following the adoption of ASU 2014-09, the revenue recognition for our other sales arrangements remained materially consistent with our historical practice.

Upon adoption of ASU 2014-09, we applied the standard’s practical expedients that permit the omission of prior-period information about our performance obligations.

See Note 1 to the accompanying consolidated financial statements for further discussion on the impact of the standard adoption on our previously reported results.

Recent Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-15, “*Intangibles—Goodwill and Other (Topic 350): Internal-Use Software*.” ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2019, which means that it will be effective for our fiscal year beginning October 1, 2020. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of ASU 2018-15 on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, “*Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*” and subsequent amendments to the initial guidance: ASU 2018-19, ASU 2019-04 and ASU 2019-05 (collectively, “Topic 326”). Topic 326 requires measurement and recognition of expected credit losses for financial assets held. Topic 326 is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2019, which means it will be effective for our fiscal year beginning October 1, 2020. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of Topic 326 on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, “*Leases (Topic 842)*” and subsequent amendments to the initial guidance: ASU 2017-13, ASU 2018-10, ASU 2018-11, ASU 2018-20 and ASU 2019-01 (collectively, “Topic 842”). Topic 842 requires companies to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets. Topic 842 is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018, which means it will be effective for our fiscal year beginning October 1, 2019. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of Topic 842 on our consolidated financial statements. We expect that most of our operating leases will be recognized as right-of-use assets and corresponding lease liabilities on our consolidated balance sheets, which will increase our total assets and total liabilities upon adoption. Subject to the completion of our assessment, we expect the adoption of the standard will result in recognition of right-of-use assets of approximately \$90 million and lease liability of approximately \$99 million in our consolidated balance sheets.

We do not expect that any other recently issued accounting pronouncements will have a significant effect on our financial statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Market Risk Disclosures

We are exposed to market risk related to changes in interest rates and foreign exchange rates. We do not use derivative financial instruments for speculative or trading purposes.

Interest Rate

We maintain an investment portfolio consisting of bank deposits and money market funds. The funds provide daily liquidity and may be subject to interest rate risk and fall in value if market interest rates increase. We do not expect our operating results or cash flows to be affected to any significant degree by a sudden change in market interest rates. The following table presents the principal amounts and related weighted-average yields for our investments with interest rate risk at September 30, 2019 and 2018:

	September 30, 2019			September 30, 2018		
	Cost Basis	Carrying Amount	Average Yield	Cost Basis	Carrying Amount	Average Yield
(Dollars in thousands)						
Cash and cash equivalents	\$ 106,426	\$ 106,426	0.76%	\$ 90,023	\$ 90,023	0.66%

On July 14, 2010, we issued \$245 million of senior notes in a private placement to a group of institutional investors (the “2010 Senior Notes”). On May 8, 2018, we issued \$400 million of senior notes in a private offering to qualified institutional investors (the “2018 Senior Notes”, and with the 2010 Senior Notes, the “Senior Notes”). The fair value of the Senior Notes may increase or decrease due to various factors, including fluctuations in market interest rates and fluctuations in general economic conditions. See Management’s Discussion and Analysis of Financial Condition and Results of Operations — Capital Resources and Liquidity for additional information on the Senior Notes. The following table presents the carrying amounts and fair values for the Senior Notes at September 30, 2019 and 2018:

	September 30, 2019		September 30, 2018	
	Carrying Amounts	Fair Value	Carrying Amounts	Fair Value
	(In thousands)			
The 2010 Senior Notes	85,000	86,121	113,000	114,413
The 2018 Senior Notes	400,000	\$ 428,000	400,000	404,000
Total	\$ 485,000	\$ 514,121	\$ 513,000	\$ 518,413

We have interest rate risk with respect to our \$400 million unsecured revolving line of credit. Interest on amounts borrowed under the credit facility is based on (i) a base rate, which is the greater of (a) the prime rate and (b) the Federal Funds rate plus 0.500% and (c) the one-month LIBOR rate plus 1.000%, plus, in each case, an applicable margin, or (ii) an adjusted LIBOR rate plus an applicable margin. The applicable margin for base rate borrowings ranges from 0% to 0.875% and for LIBOR borrowings ranges from 1.000% to 1.875% and is determined based on our consolidated leverage ratio. A change in interest rates on this variable rate debt impacts the interest incurred and cash flows, but does not impact the fair value of the instrument. We had \$345.0 million in borrowings outstanding at a weighted average interest of 3.423% under the credit facility as of September 30, 2019.

Foreign Currency Forward Contracts

We use derivative instruments to manage risks caused by fluctuations in foreign exchange rates. The primary objective of our derivative instruments is to protect the value of foreign-currency-denominated receivable and cash balances from the effects of volatility in foreign exchange rates that might occur prior to conversion to their functional currencies. We principally utilize foreign currency forward contracts, which enable us to buy and sell foreign currencies in the future at fixed exchange rates and economically offset changes in foreign exchange rates. We routinely enter into contracts to offset exposures denominated in the British pound, Euro and Singapore dollar.

Foreign-currency-denominated receivable and cash balances are remeasured at foreign exchange rates in effect on the balance sheet date with the effects of changes in foreign exchange rates reported in other income (expense), net. The forward contracts are not designated as hedges and are marked to market through other income (expense), net. Fair value changes in the forward contracts help mitigate the changes in the value of the remeasured receivable and cash balances attributable to changes in foreign exchange rates. The forward contracts are short-term in nature and typically have average maturities at inception of less than three months.

The following tables summarize our outstanding foreign currency forward contracts, by currency, at September 30, 2019 and 2018:

	September 30, 2019			
	Contract Amount		Fair Value	
	Foreign Currency	US\$	US\$	
	(In thousands)			
Sell foreign currency:				
Euro (EUR)	EUR	10,800	\$ 11,723	—
Buy foreign currency:				
British pound (GBP)	GBP	5,200	\$ 6,400	—
Singapore dollar (SGD)	SGD	5,798	\$ 4,200	—
	September 30, 2018			
	Contract Amount		Fair Value	
	Foreign Currency	US\$	US\$	
	(In thousands)			
Sell foreign currency:				
Euro (EUR)	EUR	9,000	\$ 10,372	—
Buy foreign currency:				
British pound (GBP)	GBP	8,598	\$ 11,200	—
Singapore dollar (SGD)	SGD	9,580	\$ 7,000	—

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The foreign currency forward contracts were entered into on September 30 of each fiscal year; therefore, the fair value was \$0 on September 30, 2019 and 2018.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Fair Isaac Corporation
San Jose, California

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Fair Isaac Corporation and subsidiaries (the "Company") as of September 30, 2019 and 2018, and the related consolidated statements of income and comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended September 30, 2019, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of September 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2019, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for revenue from contracts with customers in fiscal year 2019 due to the adoption of the new revenue standard. The Company adopted the new revenue standard using the full retrospective approach.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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Because of its inherent limitations; internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenues - Refer to Notes 1, 15 and 16 to the financial statements

Critical Audit Matter Description

The Company recognizes revenue when control of the promised goods or services in a contract is transferred to the customer, in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. The Company's revenue is primarily derived from term-based or perpetual licensing of software and scoring products and solutions, and associated maintenance; software-as-a-service (SaaS) subscription services; scoring and credit monitoring services for consumers; and professional services.

The Company's contracts with customers often include promises to transfer multiple products and services to a customer. For contracts with customers that contain various combinations of products and services, the Company evaluates whether the products or services are distinct. Distinct products or services will be accounted for as separate performance obligations, while non-distinct products or services are combined with others to form a single performance obligation.

For transactional revenue, the transaction price for contracts with customers typically includes a fixed consideration in the form of a guaranteed minimum that allows up to a certain level of usage and a variable consideration in the form of usage or transaction-based fees in excess of the minimum threshold; or usage or transaction-based variable amount not subject to a minimum threshold.

For contracts with multiple performance obligations, the transaction price is allocated to each performance obligation on a relative standalone selling price ("SSP") basis. The Company determines the SSP using data from historical standalone sales, or, in instances where such information is not available, the Company considers factors such as the stated contract prices, their overall pricing practices and objectives, go-to-market strategy, size and type of the transactions, and effects of the geographic area on pricing, among others.

Given the complexity of certain of the Company's contracts, together with the judgment involved in identifying performance obligations, estimating variable consideration, and determining SSP, auditing the related revenue required both extensive audit effort due to the volume and complexity of the contracts and a high degree of auditor judgment when performing audit procedures and evaluating the results of those procedures.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to revenue recognition and the Company's identification of performance obligations, estimation of variable consideration, and determination of SSP included the following, among others:

- We tested the effectiveness of controls over contract revenue, including management's controls over the identification of performance obligations, estimation of variable consideration, and determination of the SSP.
- We selected a sample of contracts and performed the following procedures:
 - Obtained and read the contract, including master agreements, renewal agreements, and other source documents that were part of the contract.
 - Obtained other contracts with the same customer that were entered into at or near the same time and evaluated management's conclusion of whether two or more contracts for multiple products and services promised to a customer should be combined and accounted for as a single contract for revenue recognition.
 - Confirmed the terms of the contract directly with the customer, including whether there are side agreements and terms not formally included in the contract that may impact the identification of performance obligations and revenue recognition.
 - Evaluated internal certification letters provided by the Company's sales personnel to identify the existence of side agreements that may impact the identification of performance obligations and revenue recognition.

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- Tested management’s identification of the performance obligations within the customer contract, including whether material rights that gave rise to a performance obligation were identified.
- Tested management’s estimation of variable consideration in the transaction price by evaluating the reasonableness of the inputs used in management’s estimates.
- Tested the accuracy and completeness of the data and factors used in management’s determination of the SSP for each performance obligation.
- Evaluated the consistency of the methodologies used to develop the SSP for each performance obligation.

/s/ Deloitte & Touche LLP

San Diego, CA

November 8, 2019

We have served as the Company’s auditor since 2004.

FAIR ISAAC CORPORATION
CONSOLIDATED BALANCE SHEETS

	September 30,	
	2019	2018
	As Adjusted	
	(In thousands, except par value data)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 106,426	\$ 90,023
Accounts receivable, net	297,427	266,742
Prepaid expenses and other current assets	51,853	39,624
Total current assets	455,706	396,389
Marketable securities	20,222	18,059
Other investments	1,643	1,697
Property and equipment, net	53,027	48,837
Goodwill	803,542	800,890
Intangible assets, net	14,139	14,536
Deferred income taxes	6,006	13,805
Other assets	79,163	36,254
Total assets	\$ 1,433,448	\$ 1,330,467
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 23,118	\$ 20,251
Accrued compensation and employee benefits	106,240	84,292
Other accrued liabilities	32,454	31,025
Deferred revenue	111,016	103,335
Current maturities on debt	218,000	235,000
Total current liabilities	490,828	473,903
Long-term debt	606,790	528,944
Other liabilities	46,063	40,183
Total liabilities	1,143,681	1,043,030
Commitments and contingencies		
Stockholders' equity:		
Preferred stock (\$0.01 par value; 1,000 shares authorized; none issued and outstanding)	—	—
Common stock (\$0.01 par value; 200,000 shares authorized, 88,857 shares issued and 28,944 and 29,015 shares outstanding at September 30, 2019 and September 30, 2018, respectively)	289	290
Paid-in-capital	1,225,365	1,211,051
Treasury stock, at cost (59,913 and 59,842 shares at September 30, 2019 and September 30, 2018, respectively)	(2,802,450)	(2,612,007)
Retained earnings	1,956,648	1,764,524
Accumulated other comprehensive loss	(90,085)	(76,421)
Total stockholders' equity	289,767	287,437
Total liabilities and stockholders' equity	\$ 1,433,448	\$ 1,330,467

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

	Year Ended September 30,		
	2019	2018	2017
	As Adjusted		As Adjusted
(In thousands, except per share data)			
Revenues:			
Transactional and maintenance	\$ 860,948	\$ 750,603	\$ 633,927
Professional services	184,095	176,910	177,904
License	115,040	72,633	123,152
Total revenues	<u>1,160,083</u>	<u>1,000,146</u>	<u>934,983</u>
Operating expenses:			
Cost of revenues	336,845	312,898	287,607
Research and development	149,478	128,383	110,870
Selling, general and administrative	414,086	376,912	337,167
Amortization of intangible assets	6,126	6,594	12,709
Restructuring and acquisition-related	—	—	4,471
Total operating expenses	<u>906,535</u>	<u>824,787</u>	<u>752,824</u>
Operating income	253,548	175,359	182,159
Interest expense, net	(39,752)	(31,311)	(25,790)
Other income (expense), net	2,276	12,884	(86)
Income before income taxes	216,072	156,932	156,283
Provision for income taxes	23,948	30,450	22,869
Net income	<u>192,124</u>	<u>126,482</u>	<u>133,414</u>
Other comprehensive income (loss):			
Foreign currency translation adjustments	(13,664)	(9,926)	10,517
Comprehensive income	<u>\$ 178,460</u>	<u>\$ 116,556</u>	<u>\$ 143,931</u>
Basic earnings per share	<u>\$ 6.63</u>	<u>\$ 4.26</u>	<u>\$ 4.32</u>
Shares used in computing basic earnings per share	<u>28,980</u>	<u>29,711</u>	<u>30,862</u>
Diluted earnings per share	<u>\$ 6.34</u>	<u>\$ 4.06</u>	<u>\$ 4.14</u>
Shares used in computing diluted earnings per share	<u>30,294</u>	<u>31,180</u>	<u>32,245</u>

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
Years Ended September 30, 2019, 2018 and 2017

(In thousands)	Common Stock		Paid-in-Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Par Value					
Balance at September 30, 2016 (As Adjusted)	30,935	\$ 309	\$ 1,188,913	\$ (2,136,760)	\$ 1,505,866	\$ (77,012)	\$ 481,316
Share-based compensation	—	—	61,222	—	—	—	61,222
Issuance of treasury stock under employee stock plans	774	8	(54,704)	28,938	—	—	(25,758)
Repurchases of common stock	(1,466)	(15)	—	(193,275)	—	—	(193,290)
Dividends paid	—	—	—	—	(1,238)	—	(1,238)
Net income	—	—	—	—	133,414	—	133,414
Foreign currency translation adjustments	—	—	—	—	—	10,517	10,517
Balance at September 30, 2017 (As Adjusted)	30,243	302	1,195,431	(2,301,097)	1,638,042	(66,495)	466,183
Share-based compensation	—	—	74,814	—	—	—	74,814
Issuance of treasury stock under employee stock plans	633	7	(59,194)	26,006	—	—	(33,181)
Repurchases of common stock	(1,861)	(19)	—	(336,916)	—	—	(336,935)
Net income	—	—	—	—	126,482	—	126,482
Foreign currency translation adjustments	—	—	—	—	—	(9,926)	(9,926)
Balance at September 30, 2018 (As Adjusted)	29,015	290	1,211,051	(2,612,007)	1,764,524	(76,421)	287,437
Share-based compensation	—	—	82,973	—	—	—	82,973
Issuance of treasury stock under employee stock plans	854	8	(68,659)	38,442	—	—	(30,209)
Repurchases of common stock	(925)	(9)	—	(228,885)	—	—	(228,894)
Net income	—	—	—	—	192,124	—	192,124
Foreign currency translation adjustments	—	—	—	—	—	(13,664)	(13,664)
Balance at September 30, 2019	28,944	\$ 289	\$ 1,225,365	\$ (2,802,450)	\$ 1,956,648	\$ (90,085)	\$ 289,767

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended September 30,		
	2019	2018	2017
	As adjusted		As adjusted
	(In thousands)		
Cash flows from operating activities:			
Net income	\$ 192,124	\$ 126,482	\$ 133,414
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	31,612	30,182	36,214
Share-based compensation	82,973	74,814	61,222
Deferred income taxes	7,701	10,584	(6,248)
Provision of doubtful accounts	518	623	1,640
Net gain (loss) on marketable securities	761	(1,449)	—
Gain on sale of cost-method investment	—	(10,000)	—
Net loss on sales of property and equipment	127	231	14
Changes in operating assets and liabilities:			
Accounts receivable	(36,176)	(8,266)	2,858
Prepaid expenses and other assets	(55,507)	(9,790)	(9,863)
Accounts payable	1,885	843	(2,027)
Accrued compensation and employee benefits	22,380	7,352	6,464
Other liabilities	1,463	6,246	(81)
Deferred revenue	10,489	(4,800)	2,037
Net cash provided by operating activities	<u>260,350</u>	<u>223,052</u>	<u>225,644</u>
Cash flows from investing activities:			
Purchases of property and equipment	(23,981)	(31,299)	(19,828)
Proceeds from sales of marketable securities	3,480	3,230	—
Purchases of marketable securities	(6,404)	(6,050)	—
Proceeds from sale of cost-method investment	—	20,000	—
Purchase of cost-method investment	—	—	(777)
Cash paid for acquisitions, net of cash acquired	(15,855)	—	—
Net cash used in investing activities	<u>(42,760)</u>	<u>(14,119)</u>	<u>(20,605)</u>
Cash flows from financing activities:			
Proceeds from revolving line of credit	229,000	427,000	190,000
Payments on revolving line of credit	(141,000)	(531,000)	(84,000)
Proceeds from issuance of senior notes	—	400,000	—
Payments on senior notes	(28,000)	(131,000)	(72,000)
Payments on debt issuance costs	—	(7,849)	—
Payments on capital leases	(945)	—	—
Proceeds from issuance of treasury stock under employee stock plans	22,788	11,023	14,474
Taxes paid related to net share settlement of equity awards	(52,996)	(44,205)	(40,232)
Dividends paid	—	—	(1,238)
Repurchases of common stock	(228,894)	(342,596)	(187,629)
Net cash used in financing activities	<u>(200,047)</u>	<u>(218,627)</u>	<u>(180,625)</u>
Effect of exchange rate changes on cash	<u>(1,140)</u>	<u>(5,901)</u>	<u>5,278</u>
Increase (decrease) in cash and cash equivalents	16,403	(15,595)	29,692
Cash and cash equivalents, beginning of year	90,023	105,618	75,926
Cash and cash equivalents, end of year	<u>\$ 106,426</u>	<u>\$ 90,023</u>	<u>\$ 105,618</u>
Supplemental disclosures of cash flow information:			
Cash paid for income taxes, net of refunds of \$1,372, \$3,079 and \$3,757 during the years ended September 30, 2019, 2018 and 2017, respectively	\$ 18,779	\$ 13,398	\$ 31,315
Cash paid for interest	\$ 39,924	\$ 26,106	\$ 26,083
Supplemental disclosures of non-cash investing and financing activities:			
Capital lease obligation incurred	\$ 5,803	\$ —	\$ —
Unsettled repurchases of common stock	\$ —	\$ —	\$ 5,661
Purchase of property and equipment included in accounts payable	\$ 1,448	\$ 1,913	\$ 1,751

See accompanying notes.

FAIR ISAAC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years Ended September 30, 2019, 2018 and 2017

1. Nature of Business and Summary of Significant Accounting Policies

Fair Isaac Corporation

Incorporated under the laws of the State of Delaware, Fair Isaac Corporation (“FICO”) is a provider of analytic, software and data management products and services that enable businesses to automate, improve and connect decisions. FICO provides a range of analytical solutions, credit scoring and credit account management products and services to banks, credit reporting agencies, credit card processing agencies, insurers, retailers, healthcare organizations and public agencies.

In these consolidated financial statements, FICO is referred to as “we,” “us,” “our,” or “the Company.”

Principles of Consolidation and Basis of Presentation

Effective October 1, 2018, we adopted ASU No. 2014-09, “*Revenue from Contracts with Customers (Topic 606)*” (“ASU 2014-09”) using the full retrospective method. In connection with this adoption, the results and related disclosures for the comparative fiscal 2018 and 2017 presented in this Form 10-K were adjusted to be presented as if ASU 2014-09 had been in effect during such fiscal years. See “New Accounting Pronouncements” and “Revenue Recognition” below. All amounts and disclosures set forth in this Form 10-K reflect these changes.

The consolidated financial statements include the accounts of FICO and its subsidiaries. All intercompany accounts and transactions have been eliminated.

Use of Estimates

We make estimates and assumptions that affect the amounts reported in the financial statements and the disclosures made in the accompanying notes. For example, we use estimates in determining the collectibility of accounts receivable; the appropriate levels of various accruals; labor hours in connection with fixed-fee service contracts; the amount of our tax provision and the realizability of deferred tax assets. We also use estimates in determining the remaining economic lives and carrying values of acquired intangible assets, property and equipment, and other long-lived assets. In addition, we use assumptions to estimate the fair value of reporting units and share-based compensation. Actual results may differ from our estimates.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash in banks and investments with an original maturity of 90 days or less at time of purchase.

Fair Value of Financial Instruments

The fair value of certain of our financial instruments, including cash and cash equivalents, receivables, other current assets, accounts payable, accrued compensation and employee benefits, other accrued liabilities and amounts outstanding under our revolving line of credit, approximate their carrying amounts because of the short-term maturity of these instruments. The fair values of our cash and cash equivalents and marketable security investments are disclosed in Note 4. The fair value of our derivative instruments is disclosed in Note 5. The fair value of our senior notes is disclosed in Note 9.

Investments

We categorize our investments in debt and equity instruments as trading, available-for-sale or held-to-maturity at the time of purchase. Trading securities are carried at fair value with unrealized gains or losses included in income (expense). Available-for-sale securities are carried at fair value measurements using quoted prices in active markets for identical assets or liabilities with unrealized gains or losses included in accumulated other comprehensive income (loss). Held-to-maturity securities are carried at amortized cost. Dividends and interest income are accrued as earned. Realized gains and losses are determined on a specific identification basis and are included in other income (expense). We review marketable securities for impairment whenever circumstances and situations change such that there is an indication that the carrying amounts may not be recovered. We did not classify any securities as held-to-maturity or available-for-sale during each of the three years ended September 30, 2019, 2018, and 2017. Investments with remaining maturities over one year are classified as long-term investments.

FAIR ISAAC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years Ended September 30, 2019, 2018 and 2017

We have certain other investments for which there is no readily determinable fair value. These investments are recorded at cost, less impairment (if any) plus or minus adjustments for observable price changes. The carrying value of these investments was \$1.6 million and \$1.7 million at September 30, 2019 and 2018, respectively, and they are reported in other assets on our balance sheets. At September 30, 2019, we reviewed the carrying value of these investments and concluded that they were not impaired and as of that date, we are unable to exercise significant influence over the investees.

Concentration of Risk

Financial instruments that potentially expose us to concentrations of risk consist primarily of cash and cash equivalents, marketable securities and accounts receivable, which are generally not collateralized. Our policy is to place our cash, cash equivalents, and marketable securities with high quality financial institutions, commercial corporations and government agencies in order to limit the amount of credit exposure. We have established guidelines relative to diversification and maturities for maintaining safety and liquidity. We generally do not require collateral from our customers, but our credit extension and collection policies include analyzing the financial condition of potential customers, establishing credit limits, monitoring payments, and aggressively pursuing delinquent accounts. We maintain allowances for potential credit losses.

A significant portion of our revenues are derived from the sales of products and services to the consumer credit and banking industries.

Property and Equipment

Property and equipment are recorded at cost less accumulated depreciation and amortization. Major renewals and improvements are capitalized, while repair and maintenance costs are expensed as incurred. Assets acquired under capital leases are included in property and equipment with corresponding depreciation included in accumulated depreciation. Depreciation and amortization charges are calculated using the straight-line method over the following estimated useful lives:

	Estimated Useful Life		
Data processing equipment and software	3 years	to	6 years
Office furniture and equipment	3 years	to	7 years
Leasehold improvements	Shorter of estimated useful life or lease term		
Equipment under capital lease	Shorter of estimated useful life or lease term		

The cost and accumulated depreciation for property and equipment sold, retired or otherwise disposed of are removed from the applicable accounts and resulting gains or losses are recorded in our consolidated statements of income and comprehensive income. Depreciation and amortization on property and equipment totaled \$24.2 million, \$22.6 million and \$23.0 million during fiscal 2019, 2018 and 2017, respectively.

Internal-Use Software

Costs incurred to develop internal-use software during the application development stage are capitalized and reported at cost. Application development stage costs generally include costs associated with internal-use software configuration, coding, installation and testing. Costs of significant upgrades and enhancements that result in additional functionality are also capitalized whereas costs incurred for maintenance and minor upgrades and enhancements are expensed as incurred. Capitalized costs are amortized using the straight-line method over two to three years. Software development costs required to be capitalized for internal-use software have not been material to date.

Capitalized Software and Research and Development Costs

Software development costs relating to products to be sold in the normal course of business are expensed as incurred as research and development costs until technological feasibility is established. Technological feasibility for our products occurs approximately concurrently with the general release of our products; accordingly, we have not capitalized any development or production costs. Costs we incur to maintain and support our existing products after the general release of the product are expensed in the period they are incurred and included in research and development costs in our consolidated statements of income and comprehensive income.

FAIR ISAAC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years Ended September 30, 2019, 2018 and 2017

Goodwill, Acquisition Intangibles and Other Long-Lived Assets

Goodwill represents the excess of cost over the fair value of identifiable assets acquired and liabilities assumed in business combinations. We assess goodwill for impairment for each of our reporting units on an annual basis during the fourth quarter using a July 1 measurement date unless circumstances require a more frequent measurement. We have determined that our reporting units are the same as our reportable segments. When evaluating goodwill for impairment, we may first perform an assessment qualitatively whether it is more likely than not that a reporting unit's carrying amount exceeds its fair value, referred to as a "step zero" approach. If, based on the review of the qualitative factors, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying value, we would bypass the two-step impairment test. Events and circumstances we consider in performing the "step zero" qualitative assessment include macro-economic conditions, market and industry conditions, internal cost factors, share price fluctuations, and the operational stability and the overall financial performance of the reporting units. If we conclude that it is more likely than not that a reporting unit's fair value is less than its carrying amount, we would perform the first step ("step one") of the two-step impairment test and calculate the estimated fair value of the reporting unit by using discounted cash flow valuation models and by comparing our reporting units to guideline publicly-traded companies. These methods require estimates of our future revenues, profits, capital expenditures, working capital, and other relevant factors, as well as selecting appropriate guideline publicly-traded companies for each reporting unit. We estimate these amounts by evaluating historical trends, current budgets, operating plans, industry data, and other relevant factors. Alternatively, we may bypass the qualitative assessment described above for any reporting unit in any period and proceed directly to performing step one of the goodwill impairment test.

For each of fiscal 2019 and 2018, we performed a step zero qualitative analysis for our annual assessment of goodwill impairment. After evaluating and weighing all relevant events and circumstances, we concluded that it is not more likely than not that the fair value of any of our reporting units was less than their carrying amounts, and did not perform a step one quantitative analysis. For fiscal 2017, we elected to proceed directly to the step one quantitative analysis for all of our reporting units, and determined goodwill was not impaired for any of our reporting units as there was a substantial excess of fair value over carrying value for each of our reporting units. Consequently, we did not recognize any goodwill impairment charges in fiscal 2019, 2018 or 2017.

We amortize our finite-lived intangible assets which result from our acquisitions over the following estimated useful lives:

	Estimated Useful Life		
Completed technology	4 years	to	10 years
Customer contracts and relationships	5 years	to	15 years
Trade names	1 year	to	3 years
Non-compete agreements			2 years

Our intangible assets that have finite useful lives and other long-lived assets are assessed for potential impairment when there is evidence that events and circumstances related to our financial performance and economic environment indicate the carrying amount of the assets may not be recoverable. When impairment indicators are identified, we test for impairment using undiscounted cash flows. If such tests indicate impairment, then we measure and record the impairment as the difference between the carrying value of the asset and the fair value of the asset. We did not recognize any impairment charges on intangible assets that have finite useful lives or other long-lived assets in fiscal 2019, 2018 and 2017.

Revenue Recognition

Contracts with Customers

Our revenue is primarily derived from term-based or perpetual licensing of software and scoring products and solutions, and associated maintenance; SaaS subscription services; scoring and credit monitoring services for consumers; and professional services. For contracts with customers that contain various combinations of products and services, we evaluate whether the products or services are distinct — distinct products or services will be accounted for as separate performance obligations, while non-distinct products or services are combined with others to form a single performance obligation. For contracts with multiple performance obligations, the transaction price is allocated to each performance obligation on a relative SSP basis. Revenue is recognized when control of the promised goods or services is transferred to our customers.

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License revenue is derived from contracts in which we grant our direct customers or distributors the right to deploy or resell our software and scoring products and solutions on-premises. Our software offerings often include a perpetual or term-based license and post-contract support or maintenance, both of which generally represent distinct performance obligations and are accounted for separately. The transaction price is either in the form of a fixed consideration with separate stated prices for license and maintenance, or a sales or usage-based royalty — sometimes subject to a guaranteed minimum — for the license and maintenance bundle. When the amount is in the form of a fixed consideration, including the guaranteed minimum in sales or usage-based royalty, license revenue from distinct on-premises license is recognized at the point in time when the software or scoring solution is made available to the customer or distributor. Any royalties not subject to the guaranteed minimum or earned in excess of the minimum amount are recognized as transactional revenue when the subsequent sales or usage occurs. Revenue allocated to maintenance is generally recognized ratably over the contract period as customers simultaneously consume and receive benefits.

In addition to sales or usage-based royalty on our software and scoring products, transactional revenue is also derived from SaaS contracts in which we provide customers with access to and standard support for our software application either in the FICO® Analytic Cloud or AWS, our primary cloud infrastructure provider, on a subscription basis. The transaction price typically includes a fixed consideration in the form of a guaranteed minimum that allows up to a certain level of usage and a variable consideration in the form of usage or transaction-based fees in excess of the minimum threshold; or usage or transaction-based variable amount not subject to a minimum threshold. We determined the nature of our SaaS arrangements is to provide continuous access to our hosted application in the cloud, i.e., a stand-ready obligation that comprises a series of distinct service periods (e.g., a series of distinct daily, monthly or annual periods of service). We estimate the total variable consideration at contract inception — subject to any constraints that may apply — and update the estimates as new information becomes available and recognize the amount ratably over the SaaS service period, unless we determine it is appropriate to allocate the variable amount to each distinct service period and recognize revenue as each distinct service period is performed.

We also derive transactional revenue from credit scoring and monitoring services that provide consumers access to their credit reports and enable them to monitor their credit. These are provided as either a one-time or ongoing subscription service renewed monthly or annually, all with a fixed consideration. We determined the nature of the subscription service is a stand-ready obligation to generate credit reports, provide credit monitoring and other services for our customers, which comprises a series of distinct service periods (e.g., a series of distinct daily, monthly or annual periods of service). Revenue from one-time or monthly subscription services is recognized during the period when service is performed. Revenue from annual subscription services is recognized ratably over the subscription period.

Professional services include software or SaaS implementation, consulting, model development, training services and premium cloud support. They are sold either standalone, or together with other products or services and generally represent distinct performance obligations. The transaction price can be a fixed amount or on a time and materials basis. Revenue on fixed-price services is recognized using an input method based on labor hours expended which we believe provides a faithful depiction of the transfer of services. Revenue on services provided on a time and materials basis is recognized applying the “right-to-invoice” practical expedient as the amount to which we have a right to invoice the customer corresponds directly with the value of our performance to the customer. In addition, we sell premium cloud support on a subscription basis for a fixed amount, and revenue is recognized ratably over the contract term.

Significant Judgments

Our contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct and should be accounted for separately may require significant judgment. Specifically, when implementation service is included in the original software or SaaS offerings, judgment is required to determine if the implementation service significantly modifies or customizes the software or SaaS service in such a way that the risks of providing it and the customization service are inseparable. In rare instances, contracts may include significant modification or customization of the software or SaaS service and will result in the combination of software or SaaS service and implementation service as one performance obligation.

We determine the SSPs using data from our historical standalone sales, or, in instances where such information is not available (such as when we do not sell the product or service separately), we consider factors such as the stated contract prices, our overall pricing practices and objectives, go-to-market strategy, size and type of the transactions, and effects of the geographic area on pricing, among others. When the selling price of a product or service is highly variable, we may use the residual approach to determine the SSP of that product or service. Significant judgment may be required to determine the SSP for each distinct performance obligation when it involves the consideration of many market conditions and entity-specific factors discussed above.

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Significant judgment may be required to determine the timing of satisfaction of a performance obligation in certain professional services contracts with a fixed consideration, in which we measure progress using an input method based on labor hours expended. In order to estimate the total hours of the project, we make assumptions about labor utilization, efficiency of processes, the customer's specification and IT environment, among others. For certain complex projects, due to the risks and uncertainties inherent with the estimation process and factors relating to the assumptions, actual progress may differ due to the change in estimated total hours. Adjustments to estimates are made in the period in which the facts requiring such revisions become known and, accordingly, recognized revenues are subject to revisions as the contract progresses to completion.

Capitalized Commission Costs

We capitalize incremental commission fees paid as a result of obtaining customer contracts. Capitalized commission costs, which are recorded in other assets within the accompanying consolidated balance sheets, were \$33.7 million and \$27.1 million at September 30, 2019 and 2018, respectively.

Capitalized commission costs are amortized on a straight-line basis over ten years — determined using a portfolio approach — based on the transfer of goods or services to which the assets relate, taking into consideration both the initial and future contracts as we do not typically pay a commission on a contract renewal. The amortization costs are included in selling, general, and administrative expenses of our consolidated statements of income and comprehensive income. The amount of amortization was \$5.0 million, \$4.5 million and \$4.2 million during the years ended September 30, 2019, 2018 and 2017, respectively. There was no impairment loss in relation to the costs capitalized.

We apply a practical expedient to recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less. These costs are recorded within selling, general, and administrative expenses.

See Note 15 for our discussion on disaggregation of revenues, and Note 16 for contract balances and performance obligations.

Business Combinations

Accounting for our acquisitions requires us to recognize, separately from goodwill, the assets acquired and the liabilities assumed at their acquisition-date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the net of the acquisition-date fair values of the assets acquired and the liabilities assumed. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of income and comprehensive income.

Accounting for business combinations requires our management to make significant estimates and assumptions, especially at the acquisition date, including our estimates for intangible assets, contractual obligations assumed, pre-acquisition contingencies and contingent consideration, where applicable. If we cannot reasonably determine the fair value of a pre-acquisition contingency (non-income tax related) by the end of the measurement period, we will recognize an asset or a liability for such pre-acquisition contingency if: (i) it is probable that an asset existed or a liability had been incurred at the acquisition date and (ii) the amount of the asset or liability can be reasonably estimated. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, they are based in part on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Subsequent to the measurement period, changes in our estimates of such contingencies will affect earnings and could have a material effect on our consolidated results of operations and financial position.

Examples of critical estimates in valuing certain of the intangible assets we have acquired include but are not limited to: (i) future expected cash flows from software license sales, support agreements, consulting contracts, other customer contracts and acquired developed technologies and patents; (ii) expected costs to develop the in-process research and development into commercially viable products and estimated cash flows from the projects when completed; and (iii) the acquired company's brand and competitive position, as well as assumptions about the period of time the acquired brand will continue to be used in the combined company's product portfolio. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

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In addition, uncertain tax positions and tax related valuation allowances assumed in connection with a business combination are initially estimated as of the acquisition date. We reevaluate these items quarterly based upon facts and circumstances that existed as of the acquisition date with any adjustments to our preliminary estimates being recorded to goodwill provided that we are within the measurement period. Subsequent to the measurement period or our final determination of the tax allowance's or contingency's estimated value, whichever comes first, changes to these uncertain tax positions and tax related valuation allowances will affect our provision for income taxes in our consolidated statements of income and comprehensive income and could have a material impact on our consolidated results of operations and financial position.

Income Taxes

We estimate our income taxes based on the various jurisdictions where we conduct business, which involves significant judgment in determining our income tax provision. We estimate our current tax liability using currently enacted tax rates and laws and assess temporary differences that result from differing treatments of certain items for tax and accounting purposes. These differences result in deferred tax assets and liabilities recorded on our balance sheet using the currently enacted tax rates and laws that will apply to taxable income for the years in which those tax assets are expected to be realized or settled. We then assess the likelihood our deferred tax assets will be realized and to the extent we believe realization is not more likely than not, we establish a valuation allowance. When we establish a valuation allowance or increase this allowance in an accounting period, we record a corresponding income tax expense in our consolidated statements of income and comprehensive income. In assessing the need for the valuation allowance, we consider future taxable income in the jurisdictions we operate; our ability to carry back tax attributes to prior years; an analysis of our deferred tax assets and the periods over which they will be realizable; and ongoing prudent and feasible tax planning strategies. An increase in the valuation allowance would have an adverse impact, which could be material, on our income tax provision and net income in the period in which we record the increase.

On December 22, 2017, the Tax Act was enacted by the U.S. government. The Tax Act makes broad and complex changes to the U.S. tax code that affect our fiscal year ended September 30, 2019, including but not limited to: (1) creating the base erosion anti-abuse tax measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries; (2) creating a new provision designed to tax global intangible low-tax income of foreign subsidiaries; and (3) a foreign derived intangible income. We have estimated the impact of these changes in our income tax provision for 2019.

We recognize and measure benefits for uncertain tax positions using a two-step approach. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the technical merits of the tax position indicate it is more likely than not that the tax position will be sustained upon audit, including resolution of any related appeals or litigation processes. For tax positions more likely than not of being sustained upon audit, the second step is to measure the tax benefit as the largest amount more than 50% likely of being realized upon settlement. Significant judgment is required to evaluate uncertain tax positions and they are evaluated on a quarterly basis. Our evaluations are based upon a number of factors, including changes in facts or circumstances, changes in tax law, correspondence with tax authorities during the course of audits and effective settlement of audit issues. Changes in the recognition or measurement of uncertain tax positions could result in material increases or decreases in our income tax expense in the period in which we make the change, which could have a material impact on our effective tax rate and operating results.

A description of our accounting policies associated with tax-related contingencies and valuation allowances assumed as part of a business combination is provided under "Business Combinations" above.

Earnings per Share

Basic earnings per share are computed on the basis of the weighted-average number of common shares outstanding during the period under measurement. Diluted earnings per share are based on the weighted-average number of common shares outstanding and potential common shares. Potential common shares result from the assumed exercise of outstanding stock options or other potentially dilutive equity instruments, when they are dilutive under the treasury stock method.

Comprehensive Income

Comprehensive income is the change in our equity (net assets) during each period from transactions and other events and circumstances from non-owner sources. It includes net income, foreign currency translation adjustments and unrealized gains and losses on our investments in marketable securities, net of tax.

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Foreign Currency and Derivative Financial Instruments

We have determined that the functional currency of each foreign operation is the local currency. Assets and liabilities denominated in their local foreign currencies are translated into U.S. dollars at the exchange rate on the balance sheet date. Revenues and expenses are translated at average rates of exchange prevailing during the period. Foreign currency translation adjustments are accumulated as a separate component of consolidated stockholders' equity.

We utilize derivative instruments to manage market risks associated with fluctuations in certain foreign currency exchange rates as they relate to specific balances of accounts receivable and cash denominated in foreign currencies. We principally utilize foreign currency forward contracts to protect against market risks arising in the normal course of business. Our policies prohibit the use of derivative instruments for the sole purpose of trading for profit on price fluctuations or to enter into contracts that intentionally increase our underlying exposure. All of our foreign currency forward contracts have maturity periods of less than three months.

At the end of the reporting period, foreign-currency-denominated assets and liabilities are remeasured into the functional currencies of the reporting entities at current market rates. The change in value from this remeasurement is reported as a foreign exchange gain or loss for that period in other income (expense), net in the accompanying consolidated statements of income and comprehensive income.

We recorded transactional foreign exchange losses of \$0.0 million, \$0.4 million and \$1.1 million during fiscal 2019, 2018 and 2017, respectively.

Share-Based Compensation

We measure stock-based compensation cost at the grant date based on the fair value of the award and recognize it as expense, net of estimated forfeitures, over the vesting or service period, as applicable, of the stock award (generally three to four years). See Note 13 for further discussion of our share-based employee benefit plans.

Advertising and Promotion Costs

Advertising and promotion costs are expensed as incurred and are included in selling, general and administrative expenses in the accompanying consolidated statements of income and comprehensive income. Advertising and promotion costs totaled \$3.6 million, \$4.1 million and \$3.1 million in fiscal 2019, 2018 and 2017, respectively.

New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09. The standard's core principle is that a reporting entity will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from the contracts with customers. The guidance permits two methods of adoption: full retrospective method or modified retrospective method.

We adopted ASU 2014-09 in the first quarter of our fiscal 2019 using the full retrospective method which required us to adjust each prior reporting period presented. This adoption primarily affected timing of revenue recognition of license revenue on term licenses and transactional revenue on guaranteed minimum fees related to our on-premises software products. Under the new standard, we recognize revenue when control of the license is transferred to the customer, rather than at the date payments become due and payable when there are extended payment terms, or ratably over the term of the contract as required under the previous standard. In addition, revenue attributable to a software license renewal is recognized at the beginning of the applicable renewal period rather than at the signing of the renewal agreement as required under the previous standard. Additionally, under the new standard, when we enter into noncancellable contracts that provide unconditional rights to payment from our customers for services we have not yet completed or services we will provide in the near future, we present receivables—our unconditional rights to payments—and deferred revenues on a gross basis, rather than on a net basis. Finally, under the new standard we capitalize and amortize contract acquisition costs such as commissions paid for SaaS cloud services contracts in excess of one year. Following the adoption of ASU 2014-09, the revenue recognition for our other sales arrangements remained materially consistent with our historical practice.

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Upon adoption of ASU 2014-09, we applied the standard's practical expedients that permit the omission of prior-period information about our performance obligations.

Adoption of the standard impacted our previously reported results as follows:

Consolidated Balance Sheets

	September 30, 2018		
	As Previously Reported	Adjustment	As Adjusted
	(In thousands)		
Accounts receivable, net	\$ 208,865	\$ 57,877	\$ 266,742
Deferred income taxes	20,117	(6,312)	13,805
Other assets	12,431	23,823	36,254
Other accrued liabilities	30,457	568	31,025
Deferred revenue	52,215	51,120	103,335
Stockholders' equity	263,737	23,700	287,437

Consolidated Statements of Income and Comprehensive Income

	Year Ended September 30, 2018			Year Ended September 30, 2017		
	As Previously Reported	Adjustment	As Adjusted	As Previously Reported	Adjustment	As Adjusted
	(In thousands, except per share amounts)					
Revenues	1,032,475	(32,329)	1,000,146	932,169	2,814	934,983
Cost of revenues	310,699	2,199	312,898	287,123	484	287,607
Selling, general and administrative	380,362	(3,450)	376,912	339,796	(2,629)	337,167
Provision for income taxes	45,595	(15,145)	30,450	23,068	(199)	22,869
Net income	142,415	(15,933)	126,482	128,256	5,158	133,414
Comprehensive income	132,502	(15,946)	116,556	138,773	5,158	143,931
Basic earnings per share	4.79	(0.53)	4.26	4.16	0.16	4.32
Diluted earnings per share	4.57	(0.51)	4.06	3.98	0.16	4.14

Consolidated Statement of Cash Flows

	Year Ended September 30, 2018			Year Ended September 30, 2017		
	As Previously Reported	Adjustment	As Adjusted	As Previously Reported	Adjustment	As Adjusted
	(In thousands)					
Cash flows from operating activities:						
Net income	\$ 142,415	\$ (15,933)	\$ 126,482	\$ 128,256	\$ 5,158	\$ 133,414
Deferred income taxes	25,729	(15,145)	10,584	(6,049)	(199)	(6,248)
Changes in operating assets and liabilities	(39,493)	31,078	(8,415)	4,347	(4,959)	(612)

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Recent Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-15, “*Intangibles—Goodwill and Other (Topic 350): Internal-Use Software*.” ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2019, which means that it will be effective for our fiscal year beginning October 1, 2020. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of ASU 2018-15 on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, “*Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*” and subsequent amendments to the initial guidance: ASU 2018-19, ASU 2019-04 and ASU 2019-05 (collectively, “Topic 326”). Topic 326 requires measurement and recognition of expected credit losses for financial assets held. Topic 326 is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2019, which means it will be effective for our fiscal year beginning October 1, 2020. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of Topic 326 on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, “*Leases (Topic 842)*” and subsequent amendments to the initial guidance: ASU 2017-13, ASU 2018-10, ASU 2018-11, ASU 2018-20 and ASU 2019-01 (collectively, “Topic 842”). Topic 842 requires companies to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets. Topic 842 is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018, which means it will be effective for our fiscal year beginning October 1, 2019. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of Topic 842 on our consolidated financial statements. We expect that most of our operating leases will be recognized as right-of-use assets and corresponding lease liabilities on our consolidated balance sheets, which will increase our total assets and total liabilities upon adoption. Subject to the completion of our assessment, we expect the adoption of the standard will result in recognition of right-of-use assets of approximately \$90 million and lease liability of approximately \$99 million in our consolidated balance sheets.

We do not expect that any other recently issued accounting pronouncements will have a significant effect on our financial statements.

2. Business Combinations

On August 9, 2019, we acquired 100% of the equity of EZMCOM for \$18.6 million in cash. EZMCOM is a provider of digital security and authentication products that helps organizations protect users, data and applications from credential theft, account takeover and breaches. We expect that this acquisition will help provide our clients, including the world’s largest financial services institutions, with a seamless approach to authentication and customer onboarding across digital channels, mobile devices, servers and workstations. We recorded, separately from goodwill, the assets acquired and the liabilities assumed at their acquisition-date fair values, which included \$2.7 million of cash and \$6.0 million of intangible assets primarily consisting of completed technology. The intangible assets are being amortized using the straight-line method over a weighted average useful life of 4.73 years. We allocated \$11.2 million of goodwill to our Applications segment that is deductible for tax purposes. EZMCOM has been included in our operating results since the acquisition date. The pro forma impact of this acquisition was not deemed material to our results of operations.

There were no acquisitions incurred during fiscal 2018 and 2017.

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3. Cash, Cash Equivalents and Marketable Securities

The following is a summary of cash, cash equivalents and marketable securities at September 30, 2019 and 2018:

	September 30, 2019		September 30, 2018	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
(In thousands)				
Cash and Cash Equivalents:				
Cash	\$ 77,525	\$ 77,525	\$ 71,610	\$ 71,610
Money market funds	22,102	22,102	13,813	13,813
Bank time deposits	6,799	6,799	4,600	4,600
Total	\$ 106,426	\$ 106,426	\$ 90,023	\$ 90,023
Long-term Marketable Securities:				
Marketable securities	\$ 17,193	\$ 20,222	\$ 14,313	\$ 18,059

The assets included in marketable securities represent long-term marketable equity securities held under a supplemental retirement and savings plan for senior management employees, which are distributed upon termination or retirement of the employees. These investments are treated as trading securities and recorded at fair value.

4. Fair Value Measurements

Fair value is defined as the price that would be received from the sale of an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The accounting guidance establishes a three-level hierarchy for disclosure that is based on the extent and level of judgment used to estimate the fair value of assets and liabilities.

- Level 1 — uses unadjusted quoted prices that are available in active markets for identical assets or liabilities. Our Level 1 assets are comprised of money market funds and certain marketable securities. We do not have any liabilities that are valued using inputs identified under a Level 1 hierarchy as of September 30, 2019 and 2018.
- Level 2 — uses inputs other than quoted prices included in Level 1 that are either directly or indirectly observable through correlation with market data. These include quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; and inputs to valuation models or other pricing methodologies that do not require significant judgment because the inputs used in the model, such as interest rates and volatility, can be corroborated by readily observable market data. We do not have any assets that are valued using inputs identified under a Level 2 hierarchy as of September 30, 2019 and 2018. We measure the fair value of the Senior Notes based on Level 2 inputs, which include quoted market prices and interest rate spreads of similar securities.
- Level 3 — uses one or more significant inputs that are unobservable and supported by little or no market activity, and that reflect the use of significant management judgment. Level 3 assets and liabilities include those whose fair value measurements are determined using pricing models, discounted cash flow methodologies or similar valuation techniques, and significant management judgment or estimation. We do not have any assets or liabilities that are valued using inputs identified under a Level 3 hierarchy as of September 30, 2019 and 2018.

The following table represents financial assets that we measured at fair value on a recurring basis at September 30, 2019 and 2018:

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<u>September 30, 2019</u>	<u>Active Markets for Identical Instruments (Level 1)</u>	<u>Fair Value as of September 30, 2019</u>
(In thousands)		
Assets:		
Cash equivalents (1)	\$ 28,901	\$ 28,901
Marketable securities (2)	20,222	20,222
Total	<u>\$ 49,123</u>	<u>\$ 49,123</u>

<u>September 30, 2018</u>	<u>Active Markets for Identical Instruments (Level 1)</u>	<u>Fair Value as of September 30, 2018</u>
(In thousands)		
Assets:		
Cash equivalents (1)	\$ 18,413	\$ 18,413
Marketable securities (2)	18,059	18,059
Total	<u>\$ 36,472</u>	<u>\$ 36,472</u>

- (1) Included in cash and cash equivalents on our balance sheet at September 30, 2019 and 2018. Not included in this table are cash deposits of \$77.5 million and \$71.6 million at September 30, 2019 and 2018, respectively.
- (2) Represents securities held under a supplemental retirement and savings plan for certain officers and senior management employees, which are distributed upon termination or retirement of the employees. Included in long-term marketable securities on our consolidated balance sheets at September 30, 2019 and 2018.

For the fair value of our derivative instruments and senior notes, see Note 5 and Note 9, respectively.

There were no transfers between Level 1, Level 2, and Level 3 of the fair value hierarchy during the year ended September 30, 2019, 2018 or 2017.

5. Derivative Financial Instruments

We use derivative instruments to manage risks caused by fluctuations in foreign exchange rates. The primary objective of our derivative instruments is to protect the value of foreign-currency-denominated receivable and cash balances from the effects of volatility in foreign exchange rates that might occur prior to conversion to their functional currencies. We principally utilize foreign currency forward contracts, which enable us to buy and sell foreign currencies in the future at fixed exchange rates and economically offset changes in foreign exchange rates. We routinely enter into contracts to offset exposures denominated in the British pound, Euro and Singapore dollar.

Foreign-currency-denominated receivable and cash balances are remeasured at foreign exchange rates in effect on the balance sheet date with the effects of changes in foreign exchange rates reported in other income (expense), net. The forward contracts are not designated as hedges and are marked to market through other income (expense), net. Fair value changes in the forward contracts help mitigate the changes in the value of the remeasured receivable and cash balances attributable to changes in foreign exchange rates. The forward contracts are short-term in nature and typically have average maturities at inception of less than three months.

The following tables summarize our outstanding foreign currency forward contracts, by currency at September 30, 2019 and 2018:

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		September 30, 2019		
		Contract Amount		Fair Value
Foreign Currency		US\$		US\$
(In thousands)				
Sell foreign currency:				
Euro (EUR)	EUR	10,800	\$	11,723
Buy foreign currency:				
British pound (GBP)	GBP	5,200	\$	6,400
Singapore dollar (SGD)	SGD	5,798	\$	4,200

		September 30, 2018		
		Contract Amount		Fair Value
Foreign Currency		US\$		US\$
(In thousands)				
Sell foreign currency:				
Euro (EUR)	EUR	9,000	\$	10,372
Buy foreign currency:				
British pound (GBP)	GBP	8,598	\$	11,200
Singapore dollar (SGD)	SGD	9,580	\$	7,000

The foreign currency forward contracts were entered into on September 30 of each fiscal year; therefore, their fair value was \$0 at September 30, 2019 and 2018.

Gains (losses) on derivative financial instruments are recorded in our consolidated statements of income and comprehensive income as a component of other income (expense), net. These amounts are shown below for the years ended September 30, 2019, 2018 and 2017:

	Year Ended September 30,		
	2019	2018	2017
(In thousands)			
Gain (loss) on foreign currency forward contracts	\$ (896)	\$ (476)	\$ 210

6. Goodwill and Intangible Assets

Intangible assets that are subject to amortization consisted of the following at September 30, 2019 and 2018:

	September 30, 2019				September 30, 2018			
	Gross Carrying Amount	Accumulated Amortization	Net	Average Life	Gross Carrying Amount	Accumulated Amortization	Net	Average Life
(In thousands, except average life)								
Completed technology	\$ 82,724	\$ (77,331)	\$ 5,393	5	\$ 82,295	\$ (77,400)	\$ 4,895	5
Customer contracts and relationships	30,583	(22,283)	8,300	8	28,692	(19,051)	9,641	8
Trade names	150	(25)	125	1	—	—	—	0
Non-compete agreements	350	(29)	321	2	—	—	—	0
	<u>\$ 113,807</u>	<u>\$ (99,668)</u>	<u>\$ 14,139</u>		<u>\$ 110,987</u>	<u>\$ (96,451)</u>	<u>\$ 14,536</u>	

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Amortization expense associated with our intangible assets is reflected as a separate operating expense caption—amortization of intangible assets—and is excluded from cost of revenues and selling, general and administrative expenses within the accompanying consolidated statements of income and comprehensive income. Amortization expense consisted of the following:

	Year Ended September 30,		
	2019	2018	2017
(In thousands)			
Completed technology	\$ 1,974	\$ 2,380	\$ 6,511
Customer contracts and relationships	4,098	4,214	6,009
Trade names	25	—	189
Non-compete agreements	29	—	—
Total	\$ 6,126	\$ 6,594	\$ 12,709

Estimated future intangible asset amortization expense associated with intangible assets existing at September 30, 2019, was as follows (in thousands):

Year Ending September 30,	
2020	\$ 4,959
2021	3,617
2022	3,329
2023	1,317
2024	917
Thereafter	—
Total	\$ 14,139

The following table summarizes changes to goodwill during fiscal 2019 and 2018, both in total and as allocated to our operating segments. We have not recognized any goodwill impairment losses to date.

	Applications	Scores	Decision Management Software	Total
	(In thousands)			
Balance at September 30, 2017	\$ 588,288	\$ 146,648	\$ 69,478	\$ 804,414
Foreign currency translation adjustment	(3,127)	—	(397)	(3,524)
Balance at September 30, 2018	585,161	146,648	69,081	800,890
Addition from acquisitions	11,233	—	—	11,233
Foreign currency translation adjustment	(7,780)	—	(801)	(8,581)
Balance at September 30, 2019	\$ 588,614	\$ 146,648	\$ 68,280	\$ 803,542

7. Composition of Certain Financial Statement Captions

The following table presents the composition of property and equipment at September 30, 2019 and 2018:

	September 30,	
	2019	2018
(In thousands)		
Property and equipment:		
Data processing equipment and software	\$ 110,874	\$ 104,789
Office furniture and equipment	21,443	22,207
Leasehold improvements	33,360	29,158
Equipment under capital lease	6,398	—
Less: accumulated depreciation and amortization	(119,048)	(107,317)
Total	\$ 53,027	\$ 48,837

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8. Revolving Line of Credit

On May 8, 2018, we amended our credit agreement with a syndicate of banks, extending the maturity date of the unsecured revolving line of credit from December 30, 2019 to May 8, 2023, while reducing our borrowing capacity to \$400 million with an option to increase it by another \$100 million. Proceeds from the credit facility can be used for working capital and general corporate purposes and may also be used for the refinancing of existing debt, acquisitions, and the repurchase of our common stock. Interest on amounts borrowed under the credit facility is based on (i) a base rate, which is the greater of (a) the prime rate and (b) the Federal Funds rate plus 0.500% and (c) the one-month LIBOR rate plus 1.000%, plus, in each case, an applicable margin, or (ii) an adjusted LIBOR rate plus an applicable margin. The applicable margin for base rate borrowings ranges from 0% to 0.875% and for LIBOR borrowings ranges from 1.000% to 1.875% and is determined based on our consolidated leverage ratio. In addition, we must pay credit facility fees. The credit facility contains certain restrictive covenants including maintaining a maximum consolidated leverage ratio of 3.25, subject to a step up to 3.75 following certain permitted acquisitions; and a minimum fixed charge ratio of 2.50 through the maturity of our 2010 Senior Notes in July 2020, upon which maintaining a minimum interest coverage ratio of 3.00. The credit agreement also contains other covenants typical of unsecured facilities. The credit agreement also contains other covenants typical of unsecured facilities. As of September 30, 2019, we had \$345.0 million in borrowings outstanding at a weighted average interest rate of 3.423%, of which \$212.0 million was classified as a long-term liability and recorded in long-term debt within the accompanying consolidated balance sheets. We were in compliance with all financial covenants under this credit facility as of September 30, 2019.

9. Senior Notes

On July 14, 2010, we issued \$245 million of senior notes in a private placement to a group of institutional investors (the “2010 Senior Notes”). The 2010 Senior Notes were issued in four series as follows:

<u>Series</u>	<u>Amount</u> (In millions)	<u>Interest Rate</u>	<u>Maturity Date</u>
E	\$ 60.0	4.72%	July 14, 2016
F	\$ 72.0	5.04%	July 14, 2017
G	\$ 28.0	5.42%	July 14, 2019
H	\$ 85.0	5.59%	July 14, 2020

The 2010 Senior Notes require us to pay the entire unpaid principal balances of each note series on its maturity date. The 2010 Senior Notes also require interest payments semi-annually and contain certain restrictive covenants, including the maintenance of a maximum consolidated net debt to consolidated EBITDA ratio of 3.00 and a minimum fixed charge coverage ratio of 2.50. We were in compliance with all financial covenants under the 2010 Senior Notes as of September 30, 2019.

On May 8, 2018, we issued \$400 million of senior notes in a private offering to qualified institutional investors (the “2018 Senior Notes”, and with the 2010 Senior Notes, the “Senior Notes”). The 2018 Senior Notes require interest payments semi-annually at a rate of 5.25% per annum and will mature on May 15, 2026.

The purchase agreements for the 2010 Senior Notes and the indenture for the 2018 Senior Notes contain certain covenants typical of unsecured obligations.

The following table presents the carrying amounts and fair values for the Senior Notes at September 30, 2019 and 2018:

	<u>September 30, 2019</u>		<u>September 30, 2018</u>	
	<u>Carrying Amounts (1)</u>	<u>Fair Value</u>	<u>Carrying Amounts (1)</u>	<u>Fair Value</u>
	<u>(In thousands)</u>			
The 2010 Senior Notes	\$ 85,000	\$ 86,121	\$ 113,000	\$ 114,413
The 2018 Senior Notes	400,000	428,000	400,000	404,000
Total	<u>\$ 485,000</u>	<u>\$ 514,121</u>	<u>\$ 513,000</u>	<u>\$ 518,413</u>

(1) Amounts exclusive of net debt issuance cost of \$5.2 million and \$6.1 million at September 30, 2019 and 2018, respectively.

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Future principal payments for the Senior Notes are as follows (in thousands):

<u>Year Ending September 30,</u>		
2020	\$	85,000
2021		—
2022		—
2023		—
2024		—
Thereafter		400,000
Total	\$	<u>485,000</u>

10. Employee Benefit Plans

Defined Contribution Plans

We sponsor the Fair Isaac Corporation 401(k) plan for eligible employees in the U.S. Under this plan, eligible employees may contribute up to 25% of compensation, not to exceed statutory limits. We also provide a company matching contribution. Investment in FICO common stock is not an option under this plan. Our contributions into all 401(k) plans, including former-acquired-company-sponsored plans that have since merged into the Fair Isaac Corporation 401(k) plan or have been frozen, totaled \$10.3 million, \$8.8 million and \$8.4 million during fiscal 2019, 2018 and 2017, respectively.

Employee Incentive Plans

We maintain various employee incentive plans for the benefit of eligible employees, including officers. The awards generally are based on the achievement of certain financial and performance objectives subject to the discretion of management. Total expenses under our employee incentive plans were \$57.5 million, \$48.4 million and \$41.6 million during fiscal 2019, 2018 and 2017, respectively.

11. Restructuring Expenses

There was no restructuring expense incurred during fiscal 2019 and 2018.

During fiscal 2017, we incurred net charges totaling \$4.5 million consisting of \$1.7 million in facilities charges associated with vacating excess leased space in San Rafael, California and \$2.8 million in employee separation costs due to the elimination of 79 positions throughout the Company. Cash payments for all the facilities charges will be paid by the end of fiscal 2020. Cash payments for all the employee separation costs were paid before the end of the second quarter of fiscal 2018.

The following tables summarize our restructuring accruals associated with the above actions. The current portion and non-current portion were recorded in other accrued liabilities and other liabilities, respectively, within the accompanying consolidated balance sheets.

	<u>Accrual at September 30,</u> <u>2017</u>	<u>Cash</u> <u>Payments</u>	<u>Accrual at September 30,</u> <u>2018</u>
	(In thousands)		
Facilities charges	\$ 8,120	\$ (2,892)	\$ 5,228
Employee separation	185	(185)	—
	<u>8,305</u>	<u>\$ (3,077)</u>	<u>5,228</u>
Less: current portion	(3,077)		(3,850)
Non-current	<u>\$ 5,228</u>		<u>\$ 1,378</u>

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	Accrual at September 30, 2018	Cash Payments	Accrual at September 30, 2019
	(In thousands)		
Facilities charges	\$ 5,228	\$ (3,850)	\$ 1,378
Less: current portion	(3,850)		(1,378)
Non-current	<u>\$ 1,378</u>		<u>\$ —</u>

12. Income Taxes

On December 22, 2017, the Tax Cuts and Jobs Act (the “Tax Act”) was enacted by the U.S. government. The Tax Act makes broad and complex changes to the U.S. tax code that affect our fiscal year ended September 30, 2019, including but not limited to: (1) creating the base erosion anti-abuse tax measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries; (2) creating a new provision designed to tax global intangible low-tax income (“GILTI”) of foreign subsidiaries; and (3) a foreign derived intangible income. We have estimated the impact of these changes in our income tax provision for 2019.

The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The FASB Staff Q&A, Topic 740, No. 5, “*Accounting for Global Intangible Low-Taxed Income*”, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred as a period expense. We have elected to account for any potential GILTI tax in the period in which it is incurred.

The provision for income taxes was as follows during fiscal 2019, 2018 and 2017:

	Year ended September 30,		
	2019	2018	2017
	As Adjusted		As Adjusted
	(In thousands)		
Current:			
Federal	\$ 1,299	\$ 8,071	\$ 19,576
State	(423)	2,236	1,055
Foreign	15,371	9,559	8,486
	<u>16,247</u>	<u>19,866</u>	<u>29,117</u>
Deferred:			
Federal	7,003	13,987	(8,523)
State	947	132	(296)
Foreign	(249)	(3,535)	2,571
	<u>7,701</u>	<u>10,584</u>	<u>(6,248)</u>
Total provision	<u>\$ 23,948</u>	<u>\$ 30,450</u>	<u>\$ 22,869</u>

The foreign provision was based on foreign pre-tax earnings of \$36.0 million, \$10.8 million and \$43.3 million in fiscal 2019, 2018 and 2017, respectively. Current foreign tax expense related to foreign tax withholdings was \$6.5 million, \$6.0 million and \$4.6 million in fiscal 2019, 2018 and 2017, respectively. Foreign withholding tax and related foreign tax credits are included in current tax expense above.

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Deferred tax assets and liabilities at September 30, 2019 and 2018 were as follows:

	September 30,	
	2019	2018
	As Adjusted	
	(In thousands)	
Deferred tax assets:		
Loss and credit carryforwards	\$ 26,702	\$ 24,377
Compensation benefits	23,931	30,388
Other assets	9,393	10,735
	60,026	65,500
Less valuation allowance	(19,231)	(19,564)
Total deferred tax assets	40,795	45,936
Deferred tax liabilities:		
Intangible assets	(15,114)	(15,921)
Deferred Commission	(7,920)	(6,368)
Property and equipment	(3,511)	(2,616)
Other liabilities	(8,244)	(7,226)
Total deferred tax liabilities	(34,789)	(32,131)
Deferred tax assets, net	\$ 6,006	\$ 13,805

Based upon the level of historical taxable income and projections for future taxable income over the periods that the deferred tax assets will reverse, management believes it is more likely than not that we will realize the benefits of the deferred tax assets, net of the existing valuation allowance at September 30, 2019.

As of September 30, 2019, we had available U.S. federal, state and foreign net operating loss (“NOL”) carryforwards of approximately \$10.6 million, \$0.2 million, and \$25.0 million, respectively. The U.S. NOLs were acquired in connection with our acquisitions of Braun in fiscal 2005, Adepra in fiscal 2012 and Infoglide in fiscal 2013. The U.S. federal NOL carryforward will expire at various dates beginning in fiscal 2020, if not utilized. The state NOL carryforward will expire at various dates beginning in fiscal 2021, if not utilized. The \$25.0 million of foreign NOL includes \$3.5 million related to China and \$12.7 million related to Germany. Due to a limited ability to utilize the China and Germany NOLs, a full valuation allowance has been recorded on the China and Germany NOLs, resulting in no tax benefit. Utilization of the U.S. federal and state NOL are subject to an annual limitation due to the “change in ownership” provisions of the Internal Revenue Code of 1986, as amended, and similar state provisions. In fiscal 2018 we generated approximately \$3.8 million of excess federal research credits which are expected to be utilized fully in future tax years. We also have available excess California state research credit of approximately \$14.1 million. The California state research credit does not have an expiration date; however, based on enacted law and expected future cash taxes, we have recorded a valuation allowance of \$14.1 million.

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A reconciliation of the provision for income taxes, with the amount computed by applying the U.S. federal statutory income tax rate (21% in fiscal 2019, 24.5% in fiscal 2018, and 35% in fiscal 2017) to income before provision for income taxes for fiscal 2019, 2018 and 2017 is shown below:

	Year Ended September 30,		
	2019	2018	2017
	As Adjusted		As Adjusted
	(In thousands)		
Income tax provision at U.S. federal statutory rate	\$ 45,375	\$ 38,495	\$ 54,699
State income taxes, net of U.S. federal benefit	4,194	2,755	2,072
Foreign tax rate differential	839	(649)	(4,082)
Intercompany interest	—	—	(477)
Research credits	(5,761)	(3,486)	(2,572)
Domestic production deduction	—	(2,421)	(2,759)
Amended returns/audit settlements/statute expirations	(2,268)	(2,349)	(1,296)
Foreign	11,177	4,040	935
Valuation allowance	(333)	1,907	2,512
Foreign tax credit	(464)	1,320	(1,342)
Excess tax benefits relating to stock-based compensation	(24,891)	(22,253)	(24,746)
Tax effect of the Tax Act	—	16,719	—
Other	(3,920)	(3,628)	(75)
Recorded income tax provision	<u>\$ 23,948</u>	<u>\$ 30,450</u>	<u>\$ 22,869</u>

The decrease in our income tax provision in fiscal 2019 compared to fiscal 2018 is due to the decrease in the overall federal tax rate from the blended 24.5% in fiscal 2018 to 21% in fiscal 2019 and the recording of several one-time items in fiscal 2018 related to the enactment of the Tax Act.

The increase in our income tax provision in fiscal 2018 compared to fiscal 2017 was primarily due to recording the impact related to the enactment of the Tax Act in fiscal 2018. This includes re-measurement to our deferred for the tax rate changes, the one-time deemed repatriation transition tax, and the loss of deductibility of performance-based compensation for certain employees.

As of September 30, 2019, we have approximately \$95.6 million of unremitted earnings of non-U.S. subsidiaries. The Company generates substantial cash flow in the U.S. and does not have a current need for the cash to be returned to the U.S. from the foreign entities. In the event these earnings are later remitted to the U.S., any estimated withholding tax on remittance of those earnings is expected to be immaterial to the income tax provision.

Unrecognized Tax Benefit for Uncertain Tax Positions

We conduct business globally and, as a result, file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, we are subject to examination by taxing authorities. With a few exceptions, we are no longer subject to U.S. federal, state, local, or foreign income tax examinations for fiscal years prior to 2015. We are currently under audit by South Carolina and New York State for fiscal years 2016, 2017 and 2018. We do not anticipate any adjustments related to those audits that will result in a material change to our consolidated financial statements.

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A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Year Ended September 30,		
	2019	2018	2017
	(In thousands)		
Gross unrecognized tax benefits at beginning of year	\$ 6,113	\$ 6,480	\$ 6,799
Gross increases for tax positions in prior years	509	404	57
Gross decreases for tax positions in prior years	(611)	—	(19)
Gross increases based on tax positions related to the current year	1,439	1,625	1,291
Decreases for settlements and payments	(637)	—	(151)
Decreases due to statute expiration	(979)	(2,396)	(1,497)
Gross unrecognized tax benefits at end of year	<u>\$ 5,834</u>	<u>\$ 6,113</u>	<u>\$ 6,480</u>

We had \$5.8 million of total unrecognized tax benefits as of September 30, 2019, including \$5.7 million of tax benefits that, if recognized, would impact the effective tax rate. Although the timing and outcome of audit settlements are uncertain, it is unlikely there will be a reduction of the uncertain tax benefits in the next twelve months.

We recognize interest expense related to unrecognized tax benefits and penalties as part of the provision for income taxes in our consolidated statements of income and comprehensive income. We recognize interest earned related to income tax matters as interest income in our consolidated statements of income and comprehensive income. As of September 30, 2019, we have accrued interest of \$0.3 million related to the unrecognized tax benefits.

13. Stock-Based Employee Benefit Plans

Description of Stock Option and Share Plans

We maintain the 2012 Long-Term Incentive Plan (the “2012 Plan”) under which we are authorized to issue equity awards, including stock options, stock appreciation rights, restricted stock awards, stock unit awards and other stock-based awards. All employees, consultants and advisors of FICO or any subsidiary, as well as all non-employee directors are eligible to receive awards under the 2012 Plan. We also have awards currently outstanding under the 1992 Long-Term Incentive Plan, which was adopted in February 1992 and expired in February 2012. Stock option awards have a maximum term of seven years. In general, stock option awards and restricted stock unit awards not subject to market or performance conditions vest annually over four years. Restricted stock unit awards subject to market or performance conditions vest annually over three years based on the achievement of specified criteria. At September 30, 2019, there were 4,259,396 shares available for issuance under the 2012 Plan.

Description of Employee Stock Purchase Plan

On February 28, 2019 our shareholders approved the adoption of the 2019 Employee Stock Purchase Plan (the “2019 Purchase Plan”). The 2019 Purchase Plan authorizes the issuance of up to 1,000,000 shares of common stock to eligible employees. Employees may have up to 15% of their eligible pay withheld through payroll deductions to purchase FICO common stock during semi-annual offering periods. The purchase price of the stock is 85% of the closing sales price on the last trading day of each offering period. Offering period means approximately six-month periods commencing (a) on the first trading day on or after September 1 and terminating on the last trading day in the following February, and (b) on the first trading day on or after March 1 and terminating on the last trading day in the following August. At September 30, 2019, there were 1,000,000 shares available for issuance under the 2019 Purchase Plan.

We satisfy stock option exercises, vesting of restricted stock units and the 2019 Purchase Plan issuances from treasury shares.

Share-Based Compensation Expense and Related Income Tax Benefits

We recorded share-based compensation expense of \$83.0 million, \$74.8 million and \$61.2 million in fiscal years 2019, 2018 and 2017, respectively. The total tax benefit related to this share-based compensation expense was \$12.5 million, \$15.7 million and \$20.4 million in fiscal 2019, 2018 and 2017, respectively. As of September 30, 2019, there was \$122.7 million of total unrecognized compensation cost related to non-vested share-based compensation arrangements granted under all equity compensation plans. Total unrecognized compensation cost will be adjusted for future changes in estimated forfeitures. We expect to recognize that cost over a weighted average period of 2.41 years.

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In fiscal 2019 we received \$22.8 million in cash from stock option exercises, with the tax benefit realized for the tax deductions from these exercises of \$23.3 million.

Stock-Based Activity

Stock Options

We estimate the fair value of stock options granted using the Black-Scholes option valuation model and we amortize the fair value on a straight-line basis over the vesting period. We used the following assumptions to estimate the fair value of our stock options during fiscal 2019, 2018 and 2017:

	Year Ended September 30,		
	2019	2018	2017
Stock Options:			
Weighted average expected term (years)	4.26	4.78	5.00
Expected volatility (range)	31.1 - 32.4%	33.6 - 35.1%	35.3%
Weighted average volatility	32.2%	34.6%	35.3%
Risk-free interest rate (range)	2.50 - 2.68%	2.03 - 2.65%	2.02%
Weighted average expected dividend yield	—%	—%	0.07%
Expected dividend yield (range)	—%	—%	0.07%

Expected Volatility. We estimate the volatility of our common stock at the date of grant based on a combination of the implied volatility of publicly traded options on our common stock and our historical volatility rate.

Expected Term. The expected term represents the period that our stock options are expected to be outstanding. We estimate the expected term based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior.

Dividends. In fiscal 2017 the dividend yield assumption was based on historical dividend payments, which were discontinued in May 2017.

Risk-Free Interest Rate. The risk-free interest rate assumption is based on observed interest rates appropriate for the term of our employee options.

Forfeitures. We use historical data to estimate pre-vesting option forfeitures and record share-based compensation expense only for those awards that are expected to vest.

The following table summarizes option activity during fiscal 2019:

	Shares (In thousands)	Weighted- average Exercise Price	Weighted- average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (In thousands)
Outstanding at October 1, 2018	996	\$ 63.13		
Granted	81	196.43		
Exercised	(456)	50.03		
Forfeited	(5)	178.09		
Outstanding at September 30, 2019	616	\$ 89.36	2.76	\$ 131,921
Exercisable at September 30, 2019	533	\$ 73.89	2.25	\$ 122,381
Vested and expected to vest at September 30, 2019	613	\$ 88.84	2.74	\$ 131,509

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The weighted average fair value of options granted were \$59.63, \$56.61 and \$43.80 during fiscal 2019, 2018 and 2017, respectively. The aggregate intrinsic value of options outstanding at September 30, 2019 was calculated as the difference between the exercise price of the underlying options and the market price of our common stock for the 0.6 million outstanding shares, which had exercise prices lower than the \$303.52 market price of our common stock at September 30, 2019. The total intrinsic value of options exercised was \$99.1 million, \$41.4 million and \$27.0 million during fiscal 2019, 2018 and 2017, respectively, determined as of the date of exercise.

Restricted Stock Units

The fair value of restricted stock units (“RSUs”) granted is the closing market price of our common stock on the date of grant, adjusted for the expected dividend yield, if applicable. We amortize the fair value on a straight-line basis over the vesting period.

The following table summarizes the RSUs activity during fiscal 2019:

	Shares	Weighted-average Grant-date Fair Value
	(In thousands)	
Outstanding at October 1, 2018	1,113	\$ 127.34
Granted	370	206.29
Released	(448)	118.73
Forfeited	(37)	140.17
Outstanding at September 30, 2019	998	\$ 159.99

The weighted average fair value of the RSUs granted were \$206.29, \$161.85 and \$122.47 during fiscal 2019, 2018 and 2017, respectively. The total intrinsic value of the RSUs that vested was \$91.2 million, \$70.7 million and \$58.7 million during fiscal 2019, 2018 and 2017, respectively, determined as of the date of vesting.

Performance Share Units

Performance share units (“PSUs”) are granted to our senior officers and earned based on pre-established performance goals approved by the Leadership Development and Compensation Committee of our Board of Directors for any given performance period. The range of payout is zero to 200% of the number of granted PSUs, based on the outcome of the performance conditions. We estimate the fair value of the PSUs using the closing market price of our common stock on the date of grant, adjusted for the expected dividend yield if applicable, based on the performance condition that is probable of achievement. We amortize the fair values over the requisite service period for each vesting tranche of the award. We reassess the probability at each reporting period and recognize the cumulative effect of the change in estimate in the period of change.

The following table summarizes the PSUs activity during fiscal 2019:

	Shares	Weighted- average Grant- date Fair Value
	(In thousands)	
Outstanding at October 1, 2018	210	\$ 133.76
Granted	91	185.05
Released	(106)	123.04
Outstanding at September 30, 2019	195	\$ 163.38

The weighted average fair value of the PSUs granted were \$185.05, \$157.17 and \$121.30 during fiscal 2019, 2018 and 2017, respectively. The total intrinsic value of the PSUs that vested was \$19.3 million, \$15.1 million and \$16.6 million during fiscal 2019, 2018 and 2017, respectively, determined as of the date of vesting.

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Market Share Units

Market share units (“MSUs”) are granted to our senior officers and earned based on our total stockholder return relative to the Russell 3000 Index over performance periods of one, two and three years. We estimate the fair value of MSUs granted using the Monte Carlo valuation model and amortize the fair values over the requisite service period for each vesting tranche of the award. In addition, we do not reverse the compensation cost solely because the market condition is not satisfied, and the award is therefore not earned by the employee, provided the requisite service is rendered. We used the following assumptions to estimate the fair value of our MSUs during fiscal 2019, 2018 and 2017:

	Year Ended September 30,		
	2019	2018	2017
Expected volatility in FICO’s stock price	24.6 %	24.6 %	27.4 %
Expected volatility in Russell 3000 Index	12.8 %	12.7 %	13.6 %
Correlation between FICO and the Russell 3000 Index	66.6 %	63.1 %	59.8 %
Risk-free interest rate	2.73 %	1.92 %	1.40 %
Average expected dividend yield	— %	— %	0.07 %

The expected volatility was determined based on daily historical movements in our stock price and the Russell 3000 Index for the three years preceding the grant date. The correlation between FICO and the Russell 3000 Index was determined based on historical daily stock price movements for the three years preceding the grant date. The dividend yield was determined using the historical dividend payout and a trailing twelve-month closing stock price on the grant date for fiscal 2017, and in May 2017 we discontinued dividend payments. The risk-free rate was determined based on U.S. Treasury zero-coupon yields over the three-year performance period.

The following table summarizes the MSUs activity during fiscal 2019:

	Shares	Weighted- average Grant-date Fair Value
	(In thousands)	
Outstanding at October 1, 2018	114	\$ 159.34
Granted	105	169.46
Released	(119)	143.57
Outstanding at September 30, 2019	<u>100</u>	<u>\$ 188.63</u>

The weighted average fair value of the MSUs granted were \$169.46, \$151.78 and \$108.09 during fiscal 2019, 2018 and 2017, respectively. The total intrinsic value of the MSUs that vested was \$21.6 million, \$18.7 million and \$20.2 million during fiscal 2019, 2018 and 2017, respectively, determined as of the date of vesting.

Employee Stock Purchase Plan

The compensation expense on the employee stock purchase plan arises from the 15% discount offered to participants. As our first semi-annual offering period started on September 1, 2019, no shares have been purchased as of September 30, 2019.

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14. Earnings per Share

The following table presents reconciliations for the numerators and denominators of basic and diluted earnings per share (“EPS”) during fiscal 2019, 2018 and 2017:

	Year Ended September 30,		
	2019	2018	2017
	As Adjusted		As Adjusted
	(In thousands, except per share data)		
Numerator for basic and diluted earnings per share — net income	\$ 192,124	\$ 126,482	\$ 133,414
Denominator — share:			
Basic weighted-average shares	28,980	29,711	30,862
Effect of dilutive securities	1,314	1,469	1,383
Diluted weighted-average shares	30,294	31,180	32,245
Earnings per share:			
Basic	\$ 6.63	\$ 4.26	\$ 4.32
Diluted	\$ 6.34	\$ 4.06	\$ 4.14

The computation of diluted EPS excludes options to purchase approximately 4,000, 5,000, and 8,000 shares of common stock for fiscal 2019, 2018 and 2017, respectively, because the exercise prices of the options exceeded the average market price of our common stock in these fiscal years and their inclusion would be antidilutive.

15. Segment Information

We are organized into the following three operating segments, each of which is a reportable segment, to align with internal management of our worldwide business operations based on product offerings.

- *Applications.* This segment includes pre-configured decision management applications designed for a specific type of business problem or process — such as marketing, account origination, customer management, fraud, collections and insurance claims management — as well as associated professional services. These applications are available to our customers as on-premises software, and many are available as hosted, SaaS applications through the FICO® Analytic Cloud or third-party public clouds, such as those provided by AWS.
- *Scores.* This segment includes our business-to-business scoring solutions, our myFICO® solutions for consumers and associated professional services. Our scoring solutions give our clients access to analytics that can be easily integrated into their transaction streams and decision-making processes. Our scoring solutions are distributed through major credit reporting agencies, as well as services through which we provide our scores to clients directly.
- *Decision Management Software.* This segment is composed of analytic and decision management software tools that clients can use to create their own custom decision management applications, our FICO® Decision Management Suite, as well as associated professional services. These tools are available to our customers as on-premises software or through the FICO® Analytic Cloud or third-party public clouds, such as those provided by AWS.

Our Chief Executive Officer evaluates segment financial performance based on segment revenues and segment operating income. Segment operating expenses consist of direct and indirect costs principally related to personnel, facilities, consulting, travel and depreciation. Indirect costs are allocated to the segments generally based on relative segment revenues, fixed rates established by management based upon estimated expense contribution levels and other assumptions that management considers reasonable. We do not allocate broad-based incentive expense, share-based compensation expense, restructuring and acquisition-related expense, amortization expense, various corporate charges and certain other income and expense measures to our segments. These income and expense items are not allocated because they are not considered in evaluating the segment’s operating performance. Our Chief Executive Officer does not evaluate the financial performance of each segment based on its respective assets or capital expenditures; rather, depreciation amounts are allocated to the segments from their internal cost centers as described above.

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The following tables summarize segment information for fiscal 2019, 2018 and 2017:

Year Ended September 30, 2019						
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total	
(In thousands)						
Segment revenues:						
Transactional and maintenance	\$ 395,398	\$ 415,288	\$ 50,262	\$ —	\$ 860,948	
Professional services	137,258	2,157	44,680	—	184,095	
License	72,378	3,732	38,930	—	115,040	
Total segment revenues	605,034	421,177	133,872	—	1,160,083	
Segment operating expense	(443,872)	(59,821)	(168,988)	(144,755)	(817,436)	
Segment operating income (loss)	\$ 161,162	\$ 361,356	\$ (35,116)	\$ (144,755)	\$ 342,647	
Unallocated share-based compensation expense						(82,973)
Unallocated amortization expense						(6,126)
Operating income						253,548
Unallocated interest expense, net						(39,752)
Unallocated other income, net						2,276
Income before income taxes						\$ 216,072
Depreciation expense	\$ 18,766	\$ 498	\$ 4,036	\$ 904	\$ 24,204	

Year Ended September 30, 2018 (As Adjusted)						
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total	
(In thousands)						
Segment revenues:						
Transactional and maintenance	\$ 372,283	\$ 331,662	\$ 46,658	\$ —	\$ 750,603	
Professional services	142,736	1,900	32,274	—	176,910	
License	49,356	2,308	20,969	—	72,633	
Total segment revenues	564,375	335,870	99,901	—	1,000,146	
Segment operating expense	(420,411)	(63,452)	(134,261)	(125,255)	(743,379)	
Segment operating income (loss)	\$ 143,964	\$ 272,418	\$ (34,360)	\$ (125,255)	256,767	
Unallocated share-based compensation expense						(74,814)
Unallocated amortization expense						(6,594)
Operating income						175,359
Unallocated interest expense, net						(31,311)
Unallocated other income, net						12,884
Income before income taxes						\$ 156,932
Depreciation expense	\$ 15,651	\$ 555	\$ 5,471	\$ 956	\$ 22,633	

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Year Ended September 30, 2017 (As Adjusted)						
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total	
(In thousands)						
Segment revenues:						
Transactional and maintenance	\$ 335,560	\$ 254,424	\$ 43,943	\$ —	\$ 633,927	
Professional services	140,990	2,869	34,045	—	177,904	
License	84,084	2,244	36,824	—	123,152	
Total segment revenues	560,634	259,537	114,812	—	934,983	
Segment operating expense	(392,307)	(54,369)	(122,839)	(104,907)	(674,422)	
Segment operating income (loss)	<u>\$ 168,327</u>	<u>\$ 205,168</u>	<u>\$ (8,027)</u>	<u>\$ (104,907)</u>	<u>260,561</u>	
Unallocated share-based compensation expense						(61,222)
Unallocated amortization expense						(12,709)
Unallocated restructuring and acquisition-related expenses						(4,471)
Operating income						182,159
Unallocated interest expense, net						(25,790)
Unallocated other expense, net						(86)
Income before income taxes						<u>\$ 156,283</u>
Depreciation expense	<u>\$ 15,857</u>	<u>\$ 991</u>	<u>\$ 4,783</u>	<u>\$ 1,349</u>	<u>\$ 22,980</u>	

Information about disaggregated revenue by product deployment methods was as follows:

Year Ended September 30, 2019						
Reportable Segments	On-Premises	SaaS	Scores	Total	Percentage	
(Dollars in thousands)						
Applications	\$ 360,105	\$ 244,929	\$ —	\$ 605,034	52%	
Scores	—	—	421,177	421,177	36%	
Decision Management Software	108,447	25,425	—	133,872	12%	
Total	<u>\$ 468,552</u>	<u>\$ 270,354</u>	<u>\$ 421,177</u>	<u>\$ 1,160,083</u>	<u>100%</u>	

Year Ended September 30, 2018 (As Adjusted)						
Reportable Segments	On-Premises	SaaS	Scores	Total	Percentage	
(Dollars in thousands)						
Applications	\$ 337,162	\$ 227,213	\$ —	\$ 564,375	56%	
Scores	—	—	335,870	335,870	34%	
Decision Management Software	86,172	13,729	—	99,901	10%	
Total	<u>\$ 423,334</u>	<u>\$ 240,942</u>	<u>\$ 335,870</u>	<u>\$ 1,000,146</u>	<u>100%</u>	

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Reportable Segments	Year Ended September 30, 2017 (As Adjusted)				
	On-Premises	SaaS	Scores	Total	Percentage
	(Dollars in thousands)				
Applications	\$ 367,944	\$ 192,690	\$ —	\$ 560,634	60%
Scores	—	—	259,537	259,537	28%
Decision Management Software	104,995	9,817	—	114,812	12%
Total	\$ 472,939	\$ 202,507	\$ 259,537	\$ 934,983	100%

We derive a significant portion of revenues internationally, and 34%, 35%, and 37% of total consolidated revenues were derived from clients outside the U.S. during fiscal 2019, 2018 and 2017, respectively. Information about disaggregated revenue by primary geographical markets was as follows:

Reportable Segments	Year Ended September 30, 2019				
	North America	Latin America	Europe, Middle East and Africa	Asia Pacific	Total
	(In thousands)				
Applications	\$ 338,990	\$ 42,656	\$ 155,539	\$ 67,849	\$ 605,034
Scores	404,778	4,591	6,359	5,449	421,177
Decision Management Software	63,397	18,040	33,288	19,147	133,872
Total	\$ 807,165	\$ 65,287	\$ 195,186	\$ 92,445	\$ 1,160,083

Reportable Segments	Year Ended September 30, 2018 (As Adjusted)				
	North America	Latin America	Europe, Middle East and Africa	Asia Pacific	Total
	(In thousands)				
Applications	\$ 318,836	\$ 39,136	\$ 141,358	\$ 65,045	\$ 564,375
Scores	328,990	1,366	3,989	1,525	335,870
Decision Management Software	53,184	5,035	24,245	17,437	99,901
Total	\$ 701,010	\$ 45,537	\$ 169,592	\$ 84,007	\$ 1,000,146

Reportable Segments	Year Ended September 30, 2017 (As Adjusted)				
	North America	Latin America	Europe, Middle East and Africa	Asia Pacific	Total
	(In thousands)				
Applications	\$ 327,226	\$ 34,678	\$ 139,765	\$ 58,965	\$ 560,634
Scores	250,260	1,573	3,831	3,873	259,537
Decision Management Software	62,758	7,112	30,222	14,720	114,812
Total	\$ 640,244	\$ 43,363	\$ 173,818	\$ 77,558	\$ 934,983

Within our Applications segment our fraud solutions accounted for 18%, 17% and 19% of total revenues in each of fiscal 2019, 2018 and 2017, respectively, our customer communication services accounted for 9%, 10% and 10% of total revenues in each of these periods, respectively; and our customer management solutions accounted for 6%, 8% and 8% of total revenues in each of these periods, respectively.

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Revenue generated from a single customer or a group of customers which represented 10% or greater of total revenue are summarized below for fiscal 2019, 2018 and 2017:

	Year Ended September 30,					
	2019		2018		2017	
			As Adjusted		As Adjusted	
(Dollars in thousands)						
Experian	\$ 148,037	13%	\$ 109,097	11%	\$ 80,096	9%
TransUnion and Equifax	183,523	16%	142,179	14%	99,735	11%
Other customers	828,523	71%	748,870	75%	755,152	80%
Total	<u>\$ 1,160,083</u>	<u>100%</u>	<u>\$ 1,000,146</u>	<u>100%</u>	<u>\$ 934,983</u>	<u>100%</u>

At September 30, 2019 and 2018, no individual customer accounted for 10% or more of total consolidated receivables.

Our property and equipment, net, on a geographical basis are summarized below at September 30, 2019 and 2018:

	September 30,			
	2019		2018	
	(Dollars in thousands)			
United States	\$ 38,058	72%	\$ 39,593	81%
United Kingdom	7,801	15%	4,296	9%
Other countries	7,168	13%	4,948	10%
Total	<u>\$ 53,027</u>	<u>100%</u>	<u>\$ 48,837</u>	<u>100%</u>

16. Contract Balances and Performance Obligations

Contract Balances

We record a receivable when we satisfy a performance obligation prior to invoicing if only the passage of time is required before payment is due or if we have an unconditional right to consideration before we satisfy a performance obligation. We record a contract asset when we satisfy a performance obligation prior to invoicing but our right to consideration is conditional. We record deferred revenue when the payment is made or due before we satisfy a performance obligation.

Receivables at September 30, 2019 and 2018 consisted of the following:

	September 30,			
	2019		2018	
	As Adjusted			
(In thousands)				
Billed	\$ 206,714	\$ 196,960		
Unbilled	127,651	73,221		
	<u>334,365</u>	<u>270,181</u>		
Less: allowance for doubtful accounts	(2,568)	(3,439)		
Net receivables (*)	<u>\$ 331,797</u>	<u>\$ 266,742</u>		

(*) Included short-term receivables of \$297.4 million and long-term receivables of \$34.4 million that were recorded in accounts receivable, net and other assets, respectively, within the accompanying consolidated balance sheets at September 30, 2019. Long-term receivables were not material at September 30, 2018.

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Activity in the allowance for doubtful accounts was as follows:

	Year Ended September 30,	
	2019	2018
	(In thousands)	
Balance, beginning of year	\$ 3,439	\$ 2,941
Add: expense	518	623
Less: write-offs (net of recoveries)	(1,389)	(125)
Balance, end of year	\$ 2,568	\$ 3,439

Contract assets balance at September 30, 2019 and 2018 was immaterial.

Deferred revenue primarily relates to our maintenance and SaaS contracts billed annually in advance and generally recognized ratably over the term of the service period. Significant changes in the deferred revenues balances are as follows:

	Year Ended September 30,	
	2019	2018
	As Adjusted	
	(In thousands)	
Deferred revenues, beginning balance	\$ 108,118	\$ 114,729
Revenue recognized that was included in the deferred revenues balance at the beginning of the period	(93,265)	(83,125)
Increases due to billings, excluding amounts recognized as revenue during the period	101,467	76,514
Deferred revenues, ending balance (*)	\$ 116,320	\$ 108,118

(*) Ending balance at September 30, 2019 included current portion of \$111.0 million and long-term portion of \$5.3 million that were recorded in deferred revenue and other liabilities, respectively, within the consolidated balance sheets. Ending balance at September 30, 2018 included current portion of \$103.3 million and long-term portion of \$4.8 million that were recorded in deferred revenue and other liabilities, respectively, within the consolidated balance sheets.

Payment terms and conditions vary by contract type, although terms generally include a requirement of payment within 30 to 60 days. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component. The primary purpose of our invoicing terms is to provide customers with simplified and predictable ways of purchasing our products and services, not to provide customers with financing or to receive financing from our customers. Examples include multi-year on-premises licenses that are invoiced annually with revenue recognized upfront, and invoicing at the beginning of a subscription term with revenue recognized ratably over the contract period.

Performance Obligations

The following table includes estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period:

Year Ending September 30,	Performance Obligations	
	(In thousands)	
2020	\$	84,022
2021		66,809
2022		39,960
2023		26,188
2024		16,512
Thereafter		4,879
Total	\$	238,370

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We apply the optional exemption that permits the omission of information about remaining performance obligations that have original expected durations of one year or less. We also applied the transition practical expedient that permits the omission of prior-period information about our performance obligations.

17. Commitments

We occupy the majority of our facilities under non-cancelable operating leases with lease terms in excess of one year. Such facility leases generally provide for annual increases based upon the Consumer Price Index or fixed increments. Rent expense under operating leases, including month-to-month leases, totaled \$21.6 million, \$19.8 million and \$18.6 million during fiscal 2019, 2018 and 2017, respectively.

We have also entered into capital lease commitments for certain computer equipment. Property acquired through capital leases and the associated depreciation of these assets is included in property and equipment on our consolidated balance sheets. The current portion and long-term portion of our capital lease obligations is reported in other accrued liabilities and other liabilities, respectively within the accompanying consolidated balance sheets.

In the ordinary course of business, we enter into contractual purchase obligations and other agreements that are legally binding and specify certain minimum payment terms.

Minimum future commitments under our non-cancelable leases and other obligations were as follows at September 30, 2019:

Year Ending September 30,	Future Minimum Lease Commitments		Other Commitments
	Capital Leases	Operating Leases	
	(In thousands)		
2020	\$ 1,935	\$ 19,842	\$ 7,000
2021	1,934	19,969	—
2022	1,934	17,677	—
2023	—	16,940	—
2024	—	14,887	—
Thereafter	—	24,431	—
Total	<u>\$ 5,803</u>	<u>\$ 113,746</u>	<u>\$ 7,000</u>

We are also a party to a management agreement with 24 of our executives providing for certain payments and other benefits in the event of a qualified change in control of FICO, coupled with a termination of the officer during the following year.

18. Contingencies

We are in disputes with certain customers regarding amounts owed in connection with the sale of certain of our products and services. We also have had claims asserted by former employees relating to compensation and other employment matters. We are also involved in various other claims and legal actions arising in the ordinary course of business. We record litigation accruals for legal matters which are both probable and estimable. For legal proceedings for which there is a reasonable possibility of loss (meaning those losses for which the likelihood is more than remote but less than probable), we have determined we do not have material exposure on an aggregate basis.

19. Guarantees

In the ordinary course of business, we are not subject to potential obligations under guarantees except for standard indemnification and warranty provisions that are contained within many of our customer license and service agreements and certain supplier agreements, including underwriter agreements, as well as standard indemnification agreements that we have executed with certain of our officers and directors, and give rise only to the disclosure in the consolidated financial statements. In addition, we continue to monitor the conditions that are subject to the guarantees and indemnifications to identify whether it is probable that a loss has occurred, and would recognize any such losses under the guarantees and indemnifications when those losses are estimable.

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Indemnification and warranty provisions contained within our customer license and service agreements and certain supplier agreements are generally consistent with those prevalent in our industry. The duration of our product warranties generally does not exceed 90 days following delivery of our products. We have not incurred significant obligations under customer indemnification or warranty provisions historically and do not expect to incur significant obligations in the future. Accordingly, we do not maintain accruals for potential customer indemnification or warranty-related obligations. The indemnification agreements that we have executed with certain of our officers and directors would require us to indemnify such officers and directors in certain instances. We have not incurred obligations under these indemnification agreements historically and do not expect to incur significant obligations in the future. Accordingly, we do not maintain accruals for potential officer or director indemnification obligations. The maximum potential amount of future payments that we could be required to make under the indemnification provisions in our customer license and service agreements, and officer and director agreements is unlimited.

20. Supplementary Financial Data (Unaudited)

The following table presents selected unaudited consolidated financial results for each of the eight quarters in the two-year period ended September 30, 2019. In the opinion of management, this unaudited information has been prepared on the same basis as the audited information and includes all adjustments (consisting of only normal recurring adjustments, except as noted below) necessary for a fair statement of the consolidated financial information for the period presented.

	Quarter Ended			
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018
	(In thousands, except per share data)			
Revenues	\$ 305,344	\$ 314,249	\$ 278,234	\$ 262,256
Cost of revenues (1)	87,996	87,215	85,568	76,066
Gross profit	217,348	227,034	192,666	186,190
Net income	\$ 54,584	\$ 64,152	\$ 33,381	\$ 40,007
Earnings per share (2):				
Basic	\$ 1.89	\$ 2.21	\$ 1.15	\$ 1.38
Diluted	\$ 1.80	\$ 2.12	\$ 1.10	\$ 1.32
Shares used in computing earnings per share:				
Basic	28,918	28,967	29,074	28,961
Diluted	30,290	30,292	30,259	30,336

	Quarter Ended			
	September 30, 2018	June 30, 2018	March 31, 2018	December 31, 2017
	As Adjusted	As Adjusted	As Adjusted	As Adjusted
	(In thousands, except per share data)			
Revenues	\$ 256,532	\$ 254,993	\$ 256,260	\$ 232,361
Cost of revenues (1)	79,962	79,011	79,493	74,432
Gross profit	176,570	175,982	176,767	157,929
Net income	\$ 32,713	\$ 29,721	\$ 31,169	\$ 32,879
Earnings per share (2):				
Basic	\$ 1.13	\$ 1.00	\$ 1.04	\$ 1.09
Diluted	\$ 1.07	\$ 0.95	\$ 1.00	\$ 1.04
Shares used in computing earnings per share:				
Basic	29,077	29,708	29,985	30,078
Diluted	30,702	31,161	31,300	31,561

- (1) Cost of revenues excludes amortization expense of \$0.5 million, \$0.5 million, \$0.5 million, \$0.5 million, \$0.5 million, \$0.6 million, \$0.6 million and \$0.7 million for the quarters ended September 30, 2019, June 30, 2019, March 31, 2019, December 31, 2018, September 30, 2018, June 30, 2018, March 31, 2018 and December 31, 2017, respectively.

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(2) Earnings per share is computed independently for each of the quarters presented. Therefore, the sum of the quarterly per share amounts may not equal the totals for the respective years.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

An evaluation was carried out under the supervision and with the participation of FICO's management, including the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), of the effectiveness of the design and operation of FICO's disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this annual report. Based on that evaluation, the CEO and CFO have concluded that FICO's disclosure controls and procedures are effective to ensure that information required to be disclosed by FICO in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. In addition, the disclosure controls and procedures ensure that information required to be disclosed is accumulated and communicated to management, including the CEO and CFO, allowing timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

Beginning on October 1, 2018, we implemented ASU 2014-09 and, as a result, we also implemented changes to our controls related to revenue. These included the development of new policies, enhanced contract review processes, and other ongoing monitoring activities. These controls were designed to provide assurance at a reasonable level of the fair presentation of our consolidated financial statements and related disclosures. There was no other change in FICO's internal control over financial reporting was identified in connection with the evaluation required by Rules 13a-15 or 15d-15 of the Exchange Act that occurred during the year ended September 30, 2019, that has materially affected, or is reasonably likely to materially affect, FICO's internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. Under the supervision and with the participation of management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of September 30, 2019 based on the guidelines established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation management has concluded that our internal control over financial reporting was effective as of September 30, 2019.

Deloitte & Touche LLP, an independent registered public accounting firm that audited the consolidated financial statements included in this Annual Report on Form 10-K, has also audited the effectiveness of our internal control over financial reporting as of September 30, 2019, as stated in their attestation report included in Part II, Item 8 of this Annual Report on Form 10-K.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The required information regarding our Directors is incorporated by reference from the information under the caption “Our Director Nominees” in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

Our current executive officers are as follows:

<u>Name</u>	<u>Positions Held</u>	<u>Age</u>
William J. Lansing	January 2012-present, Chief Executive Officer and member of the Board of Directors of the Company. February 2009-November 2010, Chief Executive Offer and President, Infospace, Inc. 2004-2007, Chief Executive Officer and President, ValueVision Media, Inc. 2001-2003, General Partner, General Atlantic LLC. 2000-2001, Chief Executive Officer, NBC Internet, Inc. 1998-2000, President/Chief Executive Officer, Fingerhut Companies, Inc. 1996-1998, Vice President, Corporate Business Development, General Electric Company. 1996, Executive Vice President, Chief Operating Office, Prodigy, Inc. 1986-1995, various positions, McKinsey & Company, Inc.	61
Michael I. McLaughlin	August 2019-present, Executive Vice President, Chief Financial Officer of the Company. May 2007-August 2019, Managing Director, Head of Technology Corporate Finance of Morgan Stanley. January 2004-May 2007, Managing Director, Head of Enterprise Systems and Supply Chain Coverage of BofA Securities. January 2001-January 2004, Executive Director, Head of Enterprise Hardware and Supply Chain of UBS Investment Bank. 1997-2001, founder and co-Chief Executive Officer of Stampede Ventures, LLC. 1993-1997, Vice President of Montgomery Securities. 1990-1993, Associate of The First Boston Corporation. 1986-1988, Analyst of The First Boston Corporation.	55
Richard S. Deal	November 2015-present, Executive Vice President, Chief Human Resources Officer of the Company. August 2007-November 2015, Senior Vice President, Chief Human Resources Officer of the Company. January 2001-August 2007, Vice President, Human Resources of the Company. 1998-2001, Vice President, Human Resources, Arcadia Financial, Ltd. 1993-1998, managed broad range of human resources corporate and line consulting functions with U.S. Bancorp.	52
Wayne Huyard	November 2014-present, Executive Vice President of Sales, Services, and Marketing of the Company. January 2014-November 2014, Consultant to the Chief Executive Officer of the Company. September 2012-November 2014, Chief Executive Officer and President, TEXbase, Inc. March 2012-May 2012, General Manager of RightNow Technologies, Oracle Corporation. July 2010-February 2012, President and Chief Operating Officer, RightNow Technologies, Inc. May 2006-May 2010, Operations and Advisory Group Executive Leadership Team Member, Cerberus Capital Management L.P.	60
Michael S. Leonard	November 2011-present, Vice President, Chief Accounting Officer of the Company. November 2007-November 2011, Senior Director, Finance of the Company. July 2000-November 2007, Director, Finance of the Company. 1998-2000, Controller of Natural Alternatives International, Inc. 1994-1998, various audit staff positions at KPMG LLP.	55
Mark R. Scadina	February 2009-present, Executive Vice President and General Counsel and Corporate Secretary of the Company. June 2007-February 2009, Senior Vice President and General Counsel and Corporate Secretary of the Company. 2003-2007, various senior positions including Executive Vice President, General Counsel and Corporate Secretary, Liberate Technologies, Inc. 1999-2003, various leadership positions including Vice President and General Counsel, Intertrust Technologies Corporation. 1994-1999, Associate, Pennie and Edmonds LLP.	50
James M. Wehmann	April 2012-present, Executive Vice President, Scores of the Company. November 2003-March 2012, Vice President/Senior Vice President, Global Marketing, Digital River, Inc. March 2002-June 2003, Vice President, Marketing, Brylane, Inc. September 2000-March 2002, Senior Vice President, Marketing, New Customer Acquisition, Bank One. 1993-2000, various roles, including Senior Vice President, Marketing, Fingerhut Companies, Inc.	54
Claus Moldt	August 2019-present, Executive Vice President, Chief Technology Officer of the Company. March 2016-August 2019, Chief Information Officer of the Company. June 2013-March 2016, Chief Executive Officer of mPath. October 2006-June 2013, Global Chief Information Officer and Senior Vice President of Technical Operations of Salesforce.com. November 2002-September 2006, Senior Director Operations Infrastructure and Project Delivery of eBay. May 2001-May 2002, Manager Database and System Administration, LoudCloud/Opware.	56

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The required information regarding compliance with Section 16(a) of the Securities Exchange Act is incorporated by reference from the information in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

FICO has adopted a Code of Ethics for Senior Financial Management that applies to the Company's Chief Executive Officer, Chief Financial Officer, Controller and other employees performing similar functions who have been identified by the Chief Executive Officer. We have posted the Code of Ethics on our website located at www.fico.com. FICO intends to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or a waiver from, this Code of Ethics by posting such information on its website. FICO also has a Code of Conduct and Business Ethics applicable to all directors, officers and employees, which is also available at the web site cited above.

The required information regarding the Company's audit committee is incorporated by reference from the information under the caption "Board Committees" in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

Item 11. *Executive Compensation*

The information required by this Item is incorporated by reference from the information under the captions "Director Compensation for Fiscal 2019" and "Executive Compensation" in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The information required by this Item is incorporated by reference from the information under the caption "Security Ownership of Certain Beneficial Owners and Management" and "Executive Compensation Plan Information" in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

The information required by this Item is incorporated by reference from the information under the caption "Certain Relationships and Related Persons Transactions" in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

Item 14. *Principal Accountant Fees and Services*

The information required by this Item is incorporated by reference from the information under the caption "Ratification of Independent Registered Public Accounting Firm" in our definitive proxy statement for the Annual Meeting of Stockholders to be held on March 4, 2020.

PART IV

Item 15. Exhibits and Financial Statement Schedules

1. Consolidated Financial Statements:

	Reference Page Form 10-K
Report of independent registered public accounting firm	50
Consolidated balance sheets as of September 30, 2019 and 2018	53
Consolidated statements of income and comprehensive income for the years ended September 30, 2019, 2018 and 2017	54
Consolidated statements of stockholders' equity for the years ended September 30, 2019, 2018 and 2017	55
Consolidated statements of cash flows for the years ended September 30, 2019, 2018 and 2017	56
Notes to consolidated financial statements	57

2. Financial Statement Schedules

All financial statement schedules are omitted as the required information is not applicable or as the information required is included in the consolidated financial statements and related notes.

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3. Exhibits:

Exhibit Number	Description
3.1	<u>Bylaws of Fair Isaac Corporation. (Incorporated by reference to Exhibit 3.1 to the Company's Form 10-Q for the quarter ended December 31, 2009 (file no. 001-11689).)</u>
3.2	<u>Composite Restated Certificate of Incorporation of Fair Isaac Corporation. (Incorporated by reference to Exhibit 3.2 to the Company's Form 10-Q for the quarter ended December 31, 2009 (file no. 001-11689).)</u>
4.1*	<u>Description of Securities of Registrant.</u>
10.1	<u>Form of Note Purchase Agreement, dated May 7, 2008, between Fair Isaac Corporation and the Purchasers listed on Schedule A thereto, which includes as Exhibits 1-4 the form of Senior Note for each of Series A, B, C and D (excluding certain schedules and exhibits thereto, which Fair Isaac Corporation agrees to furnish to the Securities and Exchange Commission upon request). (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on May 13, 2008 (file no. 001-11689).)</u>
10.2	<u>Form of Note Purchase Agreement, dated July 14, 2010, between Fair Isaac Corporation and the Purchasers listed on Schedule A thereto, which includes as Exhibits 1-4 the form of Senior Note for each of Series E, F, G and H (excluding certain schedules and exhibits thereto, which Fair Isaac Corporation agrees to furnish to the Securities and Exchange Commission upon request). (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on July 19, 2010 (file no. 001-11689).)</u>
10.3	<u>Indenture, dated as of May 8, 2018, by and between the Company and U.S. Bank National Association, as trustee, which includes the form of 5.25% Senior Notes due 2026. (Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed on May 8, 2018 (file no. 001-11689).)</u>
10.4	<u>Fair Isaac Corporation 1992 Long-Term Incentive Plan, as amended effective May 4, 2010. (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2010 (file no. 001-11689).) (1)</u>
10.5	<u>Form of Non-Qualified Stock Option Agreement under 1992 Long-term Incentive Plan, as amended effective July 18, 2007. (Incorporated by reference to Exhibit 10.42 to the Company's Form 10-Q for the quarter ended December 31, 2007 (file no. 001-11689).) (1)</u>
10.6	<u>Form of Nonstatutory Stock Option Agreement for Initial Grants to Non-Employee Directors under 1992 Long-term Incentive Plan. (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended December 31, 2008 (file no. 001-11689).) (1)</u>
10.7	<u>Form of Restricted Stock Unit Agreement under 1992 Long-term Incentive Plan, as amended effective July 18, 2007. (Incorporated by reference to Exhibit 10.49 to the Company's Form 10-Q for the quarter ended December 31, 2007 (file no. 001-11689).) (1)</u>
10.8	<u>Form of Restricted Stock Agreement under 1992 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.43 to the Company's Form 10-K for the period ended September 30, 2006 (file no. 001-11689).) (1)</u>
10.9	<u>Fair, Isaac Supplemental Retirement and Savings Plan, as amended and restated effective January 1, 2009. (Incorporated by reference to Exhibit 10.10 of the Company's Form 10-K for the fiscal year ended September 30, 2008 (file no. 001-11689).) (1)</u>
10.10	<u>Form of Indemnity Agreement entered into by the Company with the Company's directors and executive officers. (Incorporated by reference to Exhibit 10.49 to the Company's Form 10-K for the fiscal year ended September 30, 2002 (file no. 001-11689).) (1)</u>
10.11	<u>Form of Management Agreement entered into with each of the Company's executive officers. (Incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed on February 10, 2012 (file no. 001-11689).) (1)</u>
10.12	<u>Form of Amendment to Management Agreement entered into with certain of the Company's executive officers. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended December 31, 2014 (file no. 001-11689).) (1)</u>
10.13	<u>Form of Amendment to Management Agreement entered into with each of the Company's executive officers. (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2016 (file no. 001-11689).)</u>
10.14	<u>Offer Letter entered into on May 29, 2007 with Mark R. Scadina. (Incorporated by reference to Exhibit 10.61 to the Company's Form 10-K for the fiscal year ended September 30, 2008 (file no. 001-11689).) (1)</u>
10.15	<u>Letter Agreement dated January 24, 2012 by and between the Company and William J. Lansing. (Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed on January 26, 2012 (file no. 001-11689).) (1)</u>

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10.16	<u>Letter Agreement dated February 6, 2012 by and between the Company and Michael Pung. (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on February 10, 2012 (file no. 001-11689).) (1)</u>
10.17	<u>Letter Agreement dated February 6, 2012 by and between the Company and Mark Scadina. (Incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on February 10, 2012 (file no. 001-11689).) (1)</u>
10.18	<u>Letter Agreement dated March 7, 2012 by and between the Company and James M. Wehmann. (Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q for the quarter ended December 31, 2012 (file no. 001-11689).) (1)</u>
10.19	<u>Letter Agreement dated April 24, 2012 by and between the Company and Stuart C. Wells. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended December 31, 2012 (file no. 001-11689).) (1)</u>
10.20	<u>Letter Agreement dated November 5, 2014 by and between the Company and Wayne Huyard. (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended December 31, 2014 (file no. 001-11689).) (1)</u>
10.21	<u>Form of Amendment to Letter Agreement entered into with each of the Company's executive officers. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended June 30, 2016 (file no. 001-11689).) (1)</u>
10.22	<u>Fair Isaac Corporation 1992 Long-Term Incentive Plan, as amended through February 28, 2018. (Incorporated by reference to Exhibit 99 of the Company's Registration Statement on Form S-8, filed with the SEC on March 7, 2018 (Registration No. 333-223492).) (1)</u>
10.23	<u>Form of Employee Non-Statutory Stock Option Agreement (U.S.) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.24	<u>Form of Employee Restricted Stock Unit Award Agreement (U.S.) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.25	<u>Form of Employee Non-Statutory Stock Option Agreement (International) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.26	<u>Form of Employee Restricted Stock Unit Award Agreement (International) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.27	<u>Form of Employee Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.28	<u>Form of Employee Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.29	<u>Form of Executive Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.30	<u>Form of Executive Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan (U.S.), as amended November 6, 2018. (Incorporated by reference to Exhibit 10.30 to the Company's Form 10-K for the period ended September 30, 2018 (file no. 001-11689).) (1)</u>
10.31	<u>Form of Executive Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.32	<u>Form of Executive Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan (U.S.), as amended November 8, 2018. (Incorporated by reference to Exhibit 10.32 to the Company's Form 10-K for the period ended September 30, 2018 (file no. 001-11689).) (1)</u>
10.33	<u>Form of Employee Non Statutory Stock Option Agreement (International) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>

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10.34	<u>Form of Employee Non Statutory Stock Option Agreement (United Kingdom) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.7 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.35	<u>Form of Employee Restricted Stock Unit Award Agreement (International) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.8 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.36	<u>Form of Employee Restricted Stock Unit Award Agreement (United Kingdom) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.9 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.37	<u>Form of Director Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.38	<u>Form of Director Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference by Exhibit 10.7 to the Company's Form 10-Q for the quarter ended March 31, 2012 (file no. 001-11689).) (1)</u>
10.39	<u>Form of Director Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended March 31, 2017 (file no. 001-11689).) (1)</u>
10.40	<u>Form of Director Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended March 31, 2017 (file no. 001-11689).) (1)</u>
10.41	<u>Form of Performance Share Unit Award Agreement (fiscal 2016 grants) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended December 31, 2015 (file no. 001-11689).) (1)</u>
10.42	<u>Form of Performance Share Unit Award Agreement (fiscal 2017 grants) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.10 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.43	<u>Form of Performance Share Unit Agreement (fiscal 2018) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended December 31, 2017 (file no. 001-11689).) (1)</u>
10.44	<u>Form of Performance Share Unit Agreement under the 2012 Long-Term Incentive Plan.(Incorporated by reference to Exhibit 10.44 to the Company's Form 10-K for the period ended September 30, 2018 (file no. 001-11689).) (1)</u>
10.45	<u>Form of Market Share Unit Award Agreement (fiscal 2016 grants) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended December 31, 2015 (file no. 001-11689).) (1)</u>
10.46	<u>Form of Market Share Unit Agreement (fiscal 2017 grants) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.11 to the Company's Form 10-Q for the quarter ended December 31, 2016 (file no. 001-11689).) (1)</u>
10.47	<u>Form of Market Share Unit Agreement (fiscal 2018 grants) under the 2012 Long-Term Incentive Plan. (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended December 31, 2017 (file no. 001-11689).) (1)</u>
10.48	<u>Form of Market Share Unit Agreement under the 2012 Long-Term Incentive Plan.(Incorporated by reference to Exhibit 10.48 to the Company's Form 10-K for the period ended September 30, 2018 (file no. 001-11689).) (1)</u>
10.49	<u>Amended and Restated Credit Agreement dated December 31, 2014 among the Company, Wells Fargo Securities, LLC, U.S. Bank National Association, and Wells Fargo Bank, National Association. (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on December 31, 2014 (file no. 001-11689).)</u>
10.50	<u>First Amendment to Amended and Restated Credit Agreement among the Company, Wells Fargo Bank, National Association as administrative agent and the lenders thereto dated as of April 16, 2015. (Incorporated by reference to the Exhibit 10.1 to the Company's Form 8-K filed on April 17, 2015 (file no. 001-11689).)</u>

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10.51	Commitment Increase Agreement and Second Amendment to Credit Agreement dated as of June 26, 2017 by and among the Company, the lenders party thereto and Wells Fargo Bank, National Association as Administrative Agent (Incorporated by reference to the Exhibit 10.1 to the Company's Form 8-K filed on June 26, 2017 (file no. 001-11689).)
10.52	Commitment Increase Agreement to the Amended and Restated Credit Agreement dated as of November 17, 2017 by and among the Company, the lenders party thereto and Wells Fargo Bank, National Association as Administrative Agent (Incorporated by reference to the Exhibit 10.1 to the Company's Form 8-K filed on November 20, 2017 (file no. 001-11689).)
10.53	Third Amendment to Amended and Restated Credit Agreement dated as of May 8, 2018 by and among the Company, the several banks and other financial institutions party thereto, and Wells Fargo Bank, National Association, as administrative agent. (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on May 8, 2018 (file no. 001-11689).)
10.54	Transition Agreement dated January 30, 2019 by and between the Company and Michael J. Pung. (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on January 31, 2019 (file no. 001-11689).) (1)
10.55	Letter Agreement dated August 3, 2019 by and between the Company and Michael I. McLaughlin. (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on June 24, 2019 (file no. 001-11689).) (1)
10.56	Transition and Separation Agreement dated August 21, 2019 by and between the Company and Stuart C. Wells. (Incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on August 26, 2019 (file no. 001-11689).) (1)
10.57*	Letter Agreement dated August 21, 2019 by and between the Company and Claus Moldt
21.1*	List of Company's subsidiaries.
23.1*	Consent of Deloitte & Touche LLP, independent registered public accounting firm.
31.1*	Rule 13a-14(a)/15d-14(a) Certifications of CEO.
31.2*	Rule 13a-14(a)/15d-14(a) Certifications of CFO.
32.1*	Section 1350 Certification of CEO.
32.2*	Section 1350 Certification of CFO.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

(1) Management contract or compensatory plan or arrangement.

* Filed herewith.

DESCRIPTION OF CAPITAL STOCK

Fair Isaac Corporation (the “Company”) has authorized capital stock consisting of 200,000,000 shares of common stock, \$0.01 par value, and 1,000,000 shares of preferred stock, \$0.01 par value.

Common Stock

Holders of our common stock are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends, subject to the rights, if any, of preferred stockholders.

Each holder of common stock is entitled to one vote for each share held on all matters to be voted upon by the stockholders. No holder of capital stock, or of any class or classes or of a series or series thereof, is entitled to cumulate votes for the election of directors of the Company. Holders of common stock do not have any preemptive right to become subscribers or purchasers of additional shares of any class of our capital stock. The rights, preferences and privileges of holders of common stock are subject to, and may be injured by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Upon our liquidation, dissolution or winding-up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any preferred stock.

Our outstanding shares of common stock are fully paid and nonassessable. This means the full purchase price for the outstanding shares of common stock has been paid and the holders of such shares will not be assessed any additional amounts for such shares. Any additional common stock that we may issue in the future upon the conversion of the notes will also be fully paid and nonassessable.

Preferred Stock

As of September 30, 2019 there were no shares of preferred stock outstanding. The board of directors is authorized, without action by the shareholders, to designate and issue up to 1,000,000 shares of preferred stock in one or more series. The board of directors can fix the rights, preferences and privileges of the shares of each series and any qualifications, limitations or restrictions on these shares.

The board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. If we issue preferred stock, it may have the effect of delaying, deferring or preventing a change of control.

Potential Anti-takeover Effects

Some provisions of our certificate of incorporation and bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire control of the Company. This could limit the price that certain investors might be willing to pay in the future for our shares of common stock.

Our certificate of incorporation and bylaws allow us to:

- issue preferred stock without any vote or further action by our stockholders;
- eliminate the right of stockholders to act by written consent without a meeting; and
- specify procedures for director nominations by stockholders and submission of other proposals for consideration at stockholder meetings.

We are subject to provisions of Delaware law that could also delay or make more difficult a merger, tender offer or proxy contest involving the Company. In particular, Section 203 of the Delaware General Corporation Law prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years from such interested stockholder’s acquisition (together with affiliates or associates) of 15% of more of our voting stock unless the transaction meets certain conditions.

The possible issuance of preferred stock, the procedures required for director nominations and stockholder proposals and Delaware law could have the effect of delaying, deferring or preventing a change in control of the Company, including without limitation discouraging a proxy contest or making more difficult the acquisition of a substantial block of our common stock.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare.

New York Stock Exchange Listing

Our common stock is quoted on The New York Stock Exchange under the symbol “FICO.”



August 21, 2019

Claus Moldt 2034 Tripliano Ct

Mountain View, CA 94040 Dear Claus:

This letter agreement (the "Agreement") confirms details of your promotion with Fair Isaac Corporation (the "Company") to the role of Executive Vice President-Chief Technology Officer, and sets out the terms and conditions of your employment with the Company, as follows:

- Title:** You will serve as the Company's Executive Vice President-Chief Technology Officer.
- Term:** The term of your employment as the Company's Executive Vice President-Chief Technology Officer, under the terms and conditions of this Agreement shall be for a period commencing on August 21, 2019 and ending on December 31, 2021 (the "Initial Term"), unless earlier terminated by either party as provided in this Agreement. Following the Initial Term, your employment with the Company under the terms and conditions of this Agreement shall automatically be renewed for successive one year periods (each a "Renewal Term") on January 1 of each year, unless the Company elects not to extend the Term providing you with written notice at least one hundred and eighty (180) days' prior to the end of the Initial Term or any Renewal Term thereof. The period of your employment with the Company under the terms and conditions of this Agreement (including during the Initial Term and any Renewal Term) is referred to as the "Term."
- Responsibilities:** During your employment hereunder with the Company as Executive Vice President-Chief Technology Officer, you will report to the Company's Chief Executive Officer and will be responsible for overseeing all information technology, product management, product development, professional services implementation and other functions to which you may be assigned from time to time by the Chief Executive Officer or his or her designee. You agree to serve the Company faithfully and to the best of your ability, and to devote your full working time, attention and efforts to the business of the Company. You may participate in charitable activities and personal investment activities to a reasonable extent, and you may serve as a director of business and civic organizations (and retain compensation from same) as approved by the Company's Board of Directors (the "Board"), so long as such activities and directorships do not interfere with the performance of your duties and responsibilities to the Company.
- Representation:** By accepting your continued employment with the Company under this Agreement and signing below, you represent and confirm that you are under no contractual or legal commitments that would prevent you from fulfilling your d

uties and responsibilities to the Company as Executive Vice President-Chief Technology Officer.

- Initial Base Salary:** During the Term, you will be paid a base salary at the rate of \$500,000 per year for services performed, in accordance with the regular payroll practices of the Company with annual review by the Board's Leadership Development and Compensation Committee (the "Committee"). Your performance and base salary will be reviewed by the Committee annually during the first quarter of each fiscal year and may be adjusted upward from time to time at the discretion of the Committee, but will not be reduced without your consent during the Term. After any such increase, the reference to base salary in this Agreement shall mean such increased amount.
- Incentive Bonus:** You will participate in the Company's Management Incentive Plan, as may be amended by the Committee from time to time (the "MIP"). Under the MIP, for each full fiscal year of the Company that you are employed during the Term, you will be eligible for an annual incentive award opportunity payable from 0% to 100%, with a target award equal to 50%, of your annual base salary at the rate in effect at the end of such fiscal year, pursuant to the terms and conditions established by the Committee from time to time. Objectives will be established during the first quarter of the fiscal year. Any annual incentive bonus earned for a fiscal year will be paid to you by December 31 of the calendar year in which such fiscal year ends.
- Annual Equity:** For each fiscal year of the Company that you are employed during the Term, you will be eligible for an annual equity grant based on achievement of objectives established by the Committee, and on such other terms established by the Committee in its sole discretion. In accordance with the policies and practices of the Company, some or all of such annual equity grant may be in the form of restricted stock units, performance share units, market share units or other equity that is an economic equivalent to an option award. Such equivalency will be determined by the Company in its sole discretion.
- Initial Equity:** The Company shall grant to you, effective as of your promotion effective date of August 21, 2019 (the "Date of Grant"), initial equity with a Date of Grant value of \$2,000,000. This equity will be in the form of Restricted Stock Units ("RSUs"), subject to the terms of the Company's 2012 Long-Term Incentive Plan (the "Plan"). These RSUs will be subject to four-year ratable vesting.
- Benefits:** While employed by the Company during the Term, you (and your eligible dependents) will be eligible to participate in the employee benefit plans and programs generally available to other executive officers of the Company, and in such other employee benefit plans and programs to the extent that you meet the eligibility requirements for each individual plan or program and subject to the provisions, rules and regulations applicable to each such plan or program as in effect from time to time. The plans and programs of the Company may be modified or terminated by the Company in its discretion.
- Travel and Other Business Expenses:** In performing your responsibilities as Executive Vice President-Chief Technology Officer, you will be required to travel extensively, both within the United States and internationally. The Company will reimburse you promptly for all travel and

other business expenses incurred by you in connection with the performance of your duties for the Company, subject to the Company's normal business expense and travel policies and procedures.

Vacation: During your employment with the Company, you will receive vacation time off in accordance with the policies and practices of the Company. Vacation time shall be taken at such times so as not to unduly disrupt the operations of the Company.

Office Location: Your employment will be based at the Company's offices located in San Jose, California.

Inventions Agreement: You acknowledge and agree that you continue to be bound by the terms and conditions of the Proprietary Information and Inventions Agreement ("PIIA") which you signed when you first joined the Company, the terms of which are incorporated herein by reference. A copy of the PIIA is enclosed.

Post-Employment Restrictions

Agreement You acknowledge and agree that you continue to be bound by the terms and conditions of the Post-Employment Restrictions Agreement ("PERA") which you signed when you first joined the Company, the terms of which are incorporated herein by reference. A copy of the PERA is enclosed.

Change in Control: You and the Company will enter into the enclosed Management Agreement (the "Management Agreement"), to be separately signed by you, the terms of which are incorporated herein by reference (except that terms defined in the Management Agreement apply only to the use of such terms in the Management Agreement, and terms defined in this Agreement apply only to the use of such terms in this Agreement). By signing the Management Agreement, you acknowledge that your prior Management Agreement effective on May 10, 2016 (the "Prior Management Agreement") is superseded and replaced in its entirety by the Management Agreement.

Termination: Either you or the Company may terminate the employment relationship during the Term or after the Term at any time and for any reason. Upon termination of your employment by either party for any reason, you will promptly resign any and all positions you then hold as officer or director of the Company or any of its affiliates.

Severance: In case of involuntary termination of your employment by the Company without Cause prior to the end of the Initial Term or prior to the end of any Renewal Term then in effect or in the case of voluntary resignation of your employment for Good Reason prior to the end of the Initial Term or prior to the end of any Renewal Term then in effect (each a "Qualifying Termination"), the Company will pay you as severance pay an amount equal to one (1) times the sum of

(a) your annual base salary at the rate in effect on your last day of employment

plus (b) the annual incentive bonus last paid to you preceding the Qualifying Termination. In addition, upon a Qualifying Termination, if you (and, if applicable, your eligible dependents), complete and return the forms necessary to elect COBRA continuation coverage to the COBRA administrator for the group health

plan in which you participate at the time of your Qualifying Termination, then the Company will provide you and your eligible dependents with COBRA continuation coverage at no cost to you, for a period of twelve (12) months following the effective date of termination of your employment, provided you remain eligible for COBRA. This continuation coverage will be provided only with respect to your base medical, dental, vision and Employee Assistance Program coverage under the group health plan in which you receive COBRA continuation coverage (and in Minnesota only, this applies to basic life insurance coverage), and shall not apply to any medical expense reimbursement account, dental care plan, vision care plan, or other arrangement for which you may be entitled to COBRA continuation coverage. To the extent necessary in order for you to avoid being subject to tax under section 105(h) of the Code (as defined below) on any payment or reimbursement of group medical, dental or other group health care expenses made to you or for your benefit pursuant to this paragraph, the Company shall impute as taxable income to you an amount equal to the COBRA continuation coverage cost described above.

Payment by the Company of any severance pay or premium reimbursements under this paragraph will be conditioned upon you (1) signing and not revoking a full release of all claims against the Company, its affiliates, officers, directors, employees, agents and assigns, substantially in the form attached to this Agreement as Exhibit A, and delivering such signed release to the Company within the period specified in Exhibit A (2) complying with your obligations under the PIIA, the PERA and any other agreement between you and the Company then in effect, (3) cooperating with the Company in the transition of your duties, and (4) agreeing not to disparage or defame the Company, its affiliates, officers, directors, employees, agents, assigns, products or services as set forth in Exhibit A. Subject to your execution and non-revocation of the release in the form attached hereto as Exhibit A and delivery of such signed release within forty-five (45) days after your “separation from service” as determined under Section 409A of the Internal Revenue Code of 1986, as amended (the “Code”) and the regulations and all notices, rulings and other guidance issued by the Internal Revenue Service interpreting same (“Section 409A”) and your compliance with the other conditions identified above, any severance payable to you under this Agreement will be paid to you in a lump sum on the 70th day following your “separation from service” as determined under Section 409A.

For purposes of this Agreement, “Cause” and “Good Reason” have the following definitions:

“Cause” means a determination in good faith by the Company of the existence of one or more of the following: (i) commission by you of any act constituting a felony; (ii) any intentional and/or willful act of fraud or material dishonesty by you related to, connected with or otherwise affecting your employment with the Company, or otherwise likely to cause material harm to the Company or its reputation; (iii) the willful and/or continued failure, neglect, or refusal by you to

perform in all material respects your duties with the Company as an employee, officer or director, or to fulfill your fiduciary responsibilities to the Company, which failure, neglect or refusal has not been cured within fifteen (15) days after written notice thereof to you from the Company; or (iv) a material breach by you of the Company’s material policies or codes of conduct or of your material

obligations under the PIIA, the PERA or any other written agreement signed by you and the Company, which breach has not been cured within fifteen (15) days after written notice thereof to you from the Company.

“Good Reason” means any one or more of the following conditions occur without your prior written consent: (i) a material reduction in your base salary, unless such reduction is part of an across-the-board uniformly applied reduction affecting all senior executives of the Company; (ii) a material reduction in your annual cash incentive bonus target expressed as a percentage of base salary, unless such reduction is part of an across-the-board uniformly applied reduction affecting all senior executives of the Company; (iii) a requirement that you relocate to an office located fifty (50) or more miles from your current office location; (iv) material breach by the Company of any terms or conditions of this Agreement; or (v) the failure of the Company to obtain agreement from any successor to assume and agree to perform this Agreement, unless this Agreement is otherwise assumed by any successor by operation of law. A termination for Good Reason shall not take effect unless the following provisions are satisfied. You shall notify the Company within ninety (90) days after the later of the occurrence of the event giving rise to Good Reason or your learning of such event, specifying such act or acts. The Company shall have thirty (30) days after such notice has been given to cure such conduct. If the Company fails to cure such condition, then you shall be entitled to resign for Good Reason, provided such resignation shall be no later than 180 days after the occurrence of the event giving rise to your right to so resign.

In the event of termination of your employment by the Company for Cause, resignation by you other than for Good Reason, or termination due to your death or any disability for which you are qualified for benefits under the Company’s group long-term disability program, the Company’s only obligations hereunder shall be those obligations set forth immediately below in this paragraph. For any termination of your employment, you shall be entitled to (i) such compensation and any benefits (including any vested equity awards) as are earned by you or accrued or vested through the date of termination of employment, (ii) reimbursement of your business expenses incurred through the date of termination, subject to the Company’s normal business expense and travel policies and procedures; (iii) payments or benefits due to you pursuant to any applicable plan, policy, arrangement of, or agreement with, the Company or any of its affiliates; and (iv) your rights under the Indemnification Agreement, the Company’s (or any successor’s) charter documents or pursuant to applicable law or to be covered under any applicable directors’ and officers’ insurance policies.

In the event that you receive any payment or benefit under the Management Agreement following termination of your employment, you shall not be entitled to receive a comparable payment or benefit under this Agreement so as to prevent any duplication of any payments or benefits under this Agreement and the Management Agreement.

- Indemnification: The Company will indemnify you in connection with your duties and responsibilities for the Company, as set out in the enclosed Indemnification Agreement (the “Indemnification Agreement”), to be separately signed by you.
- Prior Employment: The Company understands that you may have other contractual obligations to former employers, but you have represented that no such obligations prevent you

from fulfilling your duties and responsibilities to the Company as Executive Vice President-Chief Technology Officer.

- Taxes: The Company may withhold from any compensation payable to you in connection with your employment such federal, state and local income and employment taxes as the Company shall reasonably determine are required to be withheld pursuant to any applicable law or regulation. You acknowledge and agree that the Company has made no assurances or representations to you regarding the tax treatment of any consideration provided for in this Agreement and that the Company has advised you to obtain your own personal tax advice. Except for any tax amounts withheld by the Company from the payments or other consideration hereunder and any employment taxes required to be paid by the Company or any tax liabilities for you that are the direct result of the Company failing to make payments or to provide other consideration hereunder in accordance with the terms of this Agreement, you shall be responsible for payment of any and all taxes owed in connection with the consideration provided for in this Agreement.
- No Mitigation/
No Offset: In the event of any termination of your employment, you shall be under no obligation to seek other employment or otherwise mitigate damages. There shall be no offset against, or any recoupment of, any amounts, benefits or entitlements due to you hereunder on account of any remuneration or other benefit earned or received by you from subsequent employment.
- Binding Nature: As of the date first written above, this Agreement is intended to bind and inure to the benefit of and be enforceable by you and the Company and their respective successors, assigns, heirs, executors and administrators, except you may not assign your rights or obligations hereunder without the prior written consent of the Company (provided that if you should die while any payment, benefit or entitlement is due to you hereunder, such payment, benefit or entitlement shall be paid to your designated beneficiary, or, if there is no designated beneficiary, to your estate). In addition, no rights or obligations of the Company under this Agreement may be assigned or transferred by the Company without your prior written consent, except that such rights or obligations may be assigned or transferred pursuant to a merger or consolidation in which the Company is not the continuing entity, or a sale, liquidation or other disposition of all or substantially all of the assets of the Company, provided that the assignee or transferee is the successor to all or substantially all of the assets of the Company and assumes the liabilities, obligations and duties of the Company under this Agreement, either contractually or as a matter of law.
- Applicable Law: This Agreement shall be interpreted and construed in accordance with the laws of the State of California.
- Section 409A: The parties hereto intend that all payments and benefits to be made or provided to you will be paid or provided in compliance with all applicable requirements of Section 409A (as defined above), and the provisions of this Agreement shall be construed and administered in accordance with and to implement such intent. In furtherance of the foregoing, the provisions set forth below shall apply notwithstanding any other provision in this Agreement.
- (a) All payments to be made to you hereunder, to the extent they constitute a

deferral of compensation subject to the requirements of Section 409A (after taking into account all exclusions applicable to such payments under Section 409A), shall be made no later, and shall not be made any earlier, than at the time or times specified herein or in any applicable plan for such payments to be made, except as otherwise permitted or required under Section 409A.

(b) The date of your "separation from service", as defined in Section 409A (and as determined by applying the default presumptions in Treas. Reg. §1.409A-1(h)(1)(ii)), shall be treated as the date of your termination of employment for purposes of determining the time of payment of any amount that becomes payable to you related to your termination of employment and that is properly treated as a deferral of compensation subject to Section 409A after taking into account all exclusions applicable to such payment under Section 409A.

(c) To the extent any payment or delivery otherwise required to be made to you hereunder on account of your separation from service is properly treated as a deferral of compensation subject to Section 409A after taking into account all exclusions applicable to such payment and delivery under Section 409A, and if you are a "specified employee" under Section 409A at the time of your separation from service, then such payment and delivery shall not be made prior to the first business day after the earlier of (i) the expiration of six months from the date of your separation from service, or (ii) the date of your death (such first business day, the "Delayed Payment Date"). On the Delayed Payment Date, there shall be paid or delivered to you or, if you have died, to your estate, in a single payment or delivery (as applicable) all entitlements so delayed, and in the case of cash payments, in a single cash lump sum, an amount equal to aggregate amount of all payments delayed pursuant to the preceding sentence.

(d) In the case of any amounts payable to you under this Agreement that may be treated as payable in the form of "a series of installment payments", as defined in Treas. Reg. §1.409A-2(b)(2)(iii), your right to receive such payments shall be treated as a right to receive a series of separate payments for purposes of Treas. Reg. §1.409A-2(b)(2)(iii).

(e) To the extent that the reimbursement of any expenses eligible for reimbursement or the provision of any in-kind benefits under any provision of this Agreement would be considered deferred compensation under Section 409A (after taking into account all exclusions applicable to such reimbursements and benefits under Section 409A): (i) reimbursement of any such expense shall be made by the Company as soon as practicable after such expense has been incurred, but in any event no later than December 31st of the year following the year in which you incur such expense; (ii) the amount of such expenses eligible

for reimbursement, or in-kind benefits to be provided, during any calendar year shall not affect the amount of such expenses eligible for reimbursement, or in-kind benefits to be provided, in any calendar year; and (iii) your right to receive such reimbursements or in-kind benefits shall not be subject to liquidation or exchange for another benefit.

Section 280G:

Section 3 of the Management Agreement is incorporated in full into this Agreement and shall apply to any payment, benefit or entitlement paid or provided to you (or to be paid or so provided) hereunder or otherwise as if such payment, benefit or entitlement had been paid under the Management

Agreement.

Notices: Any notice, request or other communication required under this Agreement shall be in writing and shall be deemed to have been given (i) when delivered personally, or (ii) two days after having been sent by a recognized courier, provided written acknowledgement of receipt is obtained. Any such notices, requests or other communications shall be given to the Company, at Fair Isaac Corporation, Attn: General Counsel, 181 Metro Drive, Suite 700, San Jose, California, 95110, and to you at your home address in the Company’s files (or to any other address the party provides in accordance with this notice provision).

Entire Agreement: This Agreement, the Indemnification Agreement and the Management Agreement constitute the entire agreement between the parties with respect to the subject matter hereto, and supersede all prior discussions, agreements and negotiations between you and the Company with respect to the subject matter hereof, including without limitation the Prior Management Agreement; provided, however, the PIIA and PERA remain in full force and effect in accordance with their terms, and the terms of the PIIA and PERA are incorporated herein by reference. No amendment or modification of this Agreement will be effective unless made in writing and signed by you and an authorized officer or director of the Company. Any waiver of this Agreement will only be effective if signed by the party against whom the waiver is being enforced (which in the case of the Company shall be an authorized officer or director). No waiver by any party of any breach of any condition or provision of this Agreement shall be deemed a waiver of any similar or dissimilar condition or provision at the same or any prior or subsequent time.

[signature page follows]

If you have any questions about the terms of this Agreement, please contact Richard Deal. Sincerely,
/s/ William J. Lansing
William J. Lansing
President and Chief Executive Officer

Enclosures

- Form of Release attached hereto as Exhibit A
- Management Agreement
- Indemnification Agreement
- Proprietary Information and Inventions Agreement
- Post-Employment Restrictions Agreement

I accept and agree to the terms and conditions of employment with Fair Isaac Corporation as set forth above.

/s/ Claus Moldt

August 21, 2019

Claus Moldt

Dated

EXHIBIT A**RELEASE BY CLAUS MOLDT**

Definitions. I intend all words used in this Release to have their plain meanings in ordinary English. Specific terms that I use in this Release have the following meanings:

- A. I, me, and my include both me (Claus Moldt) and anyone who has or obtains any legal rights or claims through me.
- B. FICO means Fair Isaac Corporation, any company related to Fair Isaac Corporation in the present or past (including without limitation, its predecessors, parents, subsidiaries, affiliates, joint venture partners, and divisions), and any successors of Fair Isaac Corporation.
- C. Company means FICO; the present and past officers, directors, committees, shareholders, and employees of FICO; any company providing insurance to FICO in the present or past; the present and past employee benefit plans sponsored or maintained by FICO (other than multiemployer plans) and the present and past fiduciaries of such plans; the attorneys for FIC; and anyone who acted on behalf of FICO or on instructions from FICO.
- D. Agreement means the letter agreement between me and FICO dated August 21, 2019, including all of the documents attached to such agreement.
- E. My Claims mean all of my rights that I now have to any relief of any kind from the Company, whether I now know about such rights or not, including without limitation:
 - 1. all claims arising out of or relating to my employment with FICO or the termination of that employment;
 - 2. all claims arising out of or relating to the statements, actions, or omissions of the Company;
 - 3. all claims for any alleged unlawful discrimination, harassment, retaliation or reprisal, or other alleged unlawful practices arising under the laws of the United States or any other country or of any state, province, municipality, or other unit of government, including without limitation, claims under Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans with Disabilities Act, the Family and Medical Leave Act, 42 U.S.C. § 1981, the Employee Retirement Income Security Act, the Equal Pay Act, the Worker Adjustment and Retraining Notification Act, the Sarbanes-Oxley Act, the Lilly Ledbetter Fair Pay Act of 2009, the Minnesota Human Rights Act, the Genetic Information Nondiscrimination Act, the Fair Credit Reporting Act, the California Fair Employment and Housing Act, the Minneapolis Civil Rights Ordinance, and workers' compensation non-interference or non-retaliation statutes (such as Minn. Stat. § 176.82);
 - 4. all claims for alleged wrongful discharge; breach of contract; breach of implied contract; failure to keep any promise; breach of a covenant of good faith and fair dealing; breach of fiduciary duty; estoppel; my activities, if any, as a

“whistleblower”; defamation; infliction of emotional distress; fraud; misrepresentation; negligence; harassment; retaliation or reprisal; constructive discharge; assault; battery; false imprisonment; invasion of privacy; interference with contractual or business relationships; any other wrongful employment practices; and violation of any other principle of common law;

5. all claims for compensation of any kind, including without limitation, bonuses, commissions, stock-based compensation or stock options, vacation pay and paid time off, perquisites, and expense reimbursements;
6. all rights I have under California Civil Code section 1542, which states that: “A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor;”
7. all claims for back pay, front pay, reinstatement, other equitable relief, compensatory damages, damages for alleged personal injury, liquidated damages, and punitive damages; and
8. all claims for attorneys' fees, costs, and interest.

However, My Claims do not include any claims that the law does not allow to be waived; any claims that may arise after the date on which I sign this Release; any rights I may have to indemnification from FICO as a current or former officer, director or employee of FICO, including pursuant to the Indemnification Agreement (as defined in the Agreement); any claims for payments, entitlements or benefits due me under the Agreement or the Management Agreement (as defined in the Agreement), if applicable, subject to any terms or conditions under the Agreement or the Management Agreement, if applicable; or any claims I may have for earned and accrued benefits under any employee benefit plan sponsored by the Company in which I am a participant as of the date of termination of my employment with FICO or pursuant to any long-term incentive or equity plan or award agreement

Consideration. I am entering into this Release in consideration of FICO’s obligations to provide me certain severance benefits as specified in the Agreement. I will receive consideration from FICO as set forth in the Agreement if I sign and do not rescind this Release as provided below. I understand and acknowledge that I would not be entitled to the consideration under the Agreement if I did not sign this Release. The consideration is in addition to anything of value that I would be entitled to receive from FICO if I did not sign this Release or if I rescinded this Release. I acknowledge and represent that I have received all payments and benefits that I am entitled to receive (as of the date of this Release) by virtue of any employment by the Company.

Agreement to Release My Claims. In exchange for the consideration described in the Agreement, I give up and release all of My Claims. I will not make any demands or claims against the Company for compensation or damages relating to My Claims. The consideration that I am receiving is a fair compromise for the release of My Claims.

Cooperation. Upon the reasonable request of the Company, I agree that I will (i) timely execute and deliver such acknowledgements, instruments, certificates, and other ministerial documents (including without limitation, certification as to specific actions performed by me in my capacity as an officer of the Company) as may be necessary or appropriate to formalize and complete the applicable corporate records;

(ii) reasonably consult with the Company regarding business matters that I was involved with while employed by the Company; and (iii) be reasonably available, with or without subpoena, to be interviewed, review documents or things, give depositions, testify, or engage in other reasonable activities in connection with any litigation or investigation, with respect to matters that I may have knowledge of by virtue of my employment by or service to the Company. In performing my obligations under this paragraph to testify or otherwise provide information, I will honestly, truthfully, forthrightly, and completely provide the information requested, volunteer pertinent information and turn over to the Company all relevant documents which are or may come into my possession.

My Continuing Obligations. I understand and acknowledge that I must comply with all of my post-employment obligations under the Agreement, the Proprietary Information and Inventions Agreement and the Post-Employment Restrictions Agreement. I will not defame or disparage the reputation, character, image, products, or services of FICO, or the reputation or character of FICO's directors, officers, employees and agents, and I will refrain from making public comment about the Company except upon the express written consent of an officer of FICO or if required by law or by any court with actual or apparent jurisdiction.

Additional Agreements and Understandings. Even though FICO will provide consideration for me to settle and release My Claims, the Company does not admit that it is responsible or legally obligated to me. In fact, the Company denies that it is responsible or legally obligated to me for My Claims, denies that it engaged in any unlawful or improper conduct toward me, and denies that it treated me unfairly.

Advice to Consult with an Attorney. I understand and acknowledge that I am hereby being advised by the Company to consult with an attorney prior to signing this Release and I have done so (or waived my right to do so). My decision whether to sign this Release is my own voluntary decision made with full knowledge that the Company has advised me to consult with an attorney.

Period to Consider the Release. I understand that I have at least 21 days from the date I received this Release (or at least 21 days after the last day of my employment with FICO, if later) to consider whether I wish to sign this Release. If I sign this Release before the end of the 21-day period, it will be my voluntary decision to do so because I have decided that I do not need any additional time to decide whether to sign this Release. I understand and agree that if I sign this Release prior to my last day of employment with FICO it will not be valid and FICO will not be obligated to provide the consideration described in the Release.

My Right to Rescind this Release. I understand that I may rescind this Release at any time within 15 days after I sign it, not counting the day upon which I sign it. This Release will not become effective or enforceable unless and until the 15-day rescission period has expired without my rescinding it. I understand that if I rescind this Release FICO will not be obligated to provide the consideration described in the Release.

Procedure for Accepting or Rescinding the Release. To accept the terms of this Release, I must deliver the Release, after I have signed and dated it, to FICO by hand or by mail within 45 days after my separation from service date. To rescind my acceptance, I must deliver a written, signed statement that I rescind my acceptance to FICO by hand or by mail within the 15-day rescission period. All deliveries must be made to FICO at the following address:

Executive Vice President-Chief HR Officer Fair Isaac Corporation
2665 Long Lake Road Roseville, MN 55113

If I choose to deliver my acceptance or the rescission by mail, it must be postmarked within the period stated above and properly addressed to FICO at the address stated above.

Interpretation of the Release. This Release should be interpreted as broadly as possible to achieve my intention to resolve all of My Claims against the Company. If this Release is held by a court to be inadequate to release a particular claim encompassed within My Claims, this Release will remain in full force and effect with respect to all the rest of My Claims. I agree that the provisions of this Release may not be amended, waived, changed or modified except by an instrument in writing signed by an authorized representative of FICO and by me.

My Representations. I am legally able and entitled to receive the consideration being provided to me in settlement of My Claims. I have not been involved in any personal bankruptcy or other insolvency proceedings at any time since I began my employment with FICO. No child support orders, garnishment orders, or other orders requiring that money owed to me by FICO be paid to any other person are now in effect.

I have read this Release carefully. I understand all of its terms. In signing this Release, I have not relied on any statements or explanations made by the Company except as specifically set forth in the Agreement. I am voluntarily releasing My Claims against the Company. I intend this Release and the Agreement to be legally binding.

Dated: _____

Claus Moldt

FAIR ISAAC CORPORATION
SUBSIDIARIES

<u>Name of Company</u>	<u>Jurisdiction of Incorporation/Organization</u>
HNC Software LLC ⁽¹⁾	Delaware
Infoglide Software Corporation ⁽¹⁾	Delaware
Fair Isaac Holdings, Inc. ⁽¹⁾	Delaware
Data Research Technologies, Inc. ⁽²⁾	Minnesota
Fair Isaac Credit Services, Inc. ⁽²⁾	Delaware
Fair Isaac Network, Inc. ⁽²⁾	Delaware
CR Software, LLC ⁽²⁾	Virginia
myFICO Consumer Services Inc. ⁽²⁾	Delaware
eZmCom, Inc. ⁽²⁾	Delaware
Eighth Intuition Sdn Bhd. ⁽³⁾	Malaysia
Entiera, Inc. ⁽¹⁾	Delaware
Fair Isaac International Corporation ⁽¹⁾	California
Fair Isaac Hong Kong Limited ⁽⁴⁾	Hong Kong
Fair Isaac Canada, Ltd. ⁽⁴⁾	Canada
Fair Isaac Asia Pacific Corp. ⁽⁴⁾	Delaware
Fair Isaac Japan G.K. ⁽⁵⁾	Japan
Fair Isaac Brazil, LLC ⁽⁴⁾	Delaware
Fair Isaac do Brasil, Ltda. ⁽⁶⁾	Brazil
Fair Isaac Asia Holdings, Inc. ⁽⁴⁾	Minnesota
Fair Isaac Information Technology (Beijing) Co., Ltd. ⁽⁷⁾	China
Fair Isaac India Software Private Limited ⁽⁸⁾	India
Fair Isaac UK Holdings, Inc. ⁽⁴⁾	Delaware
Fair Isaac UK Investment Holdings LP ⁽⁹⁾	England and Wales
Fair Isaac (Singapore) Pte. Ltd. ⁽¹⁰⁾	Singapore
Fair Isaac UK Group Limited ⁽¹⁰⁾	England and Wales
Fair Isaac UK International Holdings Ltd. ⁽¹¹⁾	England and Wales
Fair Isaac Software Holdings Limited ⁽¹²⁾	England and Wales
Fair Isaac Chile Software and Services Ltda. ⁽¹³⁾	Chile
Fair Isaac South Africa (Pty) Ltd ⁽¹⁴⁾	South Africa
Fair Isaac Services Limited ⁽¹⁴⁾	England and Wales
Fair Isaac (Adeptra) Limited ⁽¹⁴⁾	England and Wales
Fair Isaac Germany GmbH ⁽¹⁴⁾	Germany
Fair Isaac Europe Limited ⁽¹⁴⁾	England and Wales
Fair Isaac Turkey Software and Consultancy Services Limited Sirketi ⁽¹⁵⁾	Turkey
Fair Isaac Lithuania, UAB ⁽¹⁵⁾	Lithuania
Fair Isaac Italy S.r.l. ⁽¹⁵⁾	Italy
Fair Isaac Polska sp. z.o.o. ⁽¹⁵⁾	Poland
Fair Isaac Nordics AB ⁽¹⁵⁾	Sweden
Fair Isaac España SL ⁽¹⁵⁾	Spain

FICO Middle East FZ-LLC ⁽¹⁵⁾	Dubai, UAE
Fair Isaac (ASPAC) Pte. Ltd. ⁽¹⁴⁾	Singapore
Fair Isaac (Australia) Pty Ltd ⁽¹⁶⁾	Australia
Fair Isaac (Thailand) Co., Ltd. ⁽¹⁷⁾	Thailand
Fair Isaac WBR Limited Liability Company ⁽¹⁸⁾	Russia
Fair Isaac Mexico S.A. de C.V. ⁽¹⁹⁾	Mexico

Footnotes:

- (1) 100% owned by Fair Isaac Corporation
- (2) 100% owned by Fair Isaac Holdings, Inc.
- (3) 100% owned by eZmCom, Inc.
- (4) 100% owned by Fair Isaac International Corporation
- (5) 100% owned by Fair Isaac Asia Pacific Corp.
- (6) 99% owned by Fair Isaac International Corporation and 1% owned by Fair Isaac Brazil, LLC
- (7) 100% owned by Fair Isaac Asia Holdings, Inc.
- (8) 99.99% owned by Fair Isaac International Corporation and .01% owned by Fair Isaac Corporation
- (9) 99.99% owned by FI UK Holdings, Inc. and .01% owned by Fair Isaac International Corporation
- (10) 100% owned by Fair Isaac Investment Holdings LP
- (11) 100% owned by Fair Isaac UK Group Limited
- (12) 100% owned by Fair Isaac UK International Holdings Ltd.
- (13) 99.98% owned by Fair Isaac Software Holdings Limited and .02% owned by Fair Isaac Services Limited
- (14) 100% owned by Fair Isaac Software Holdings Limited
- (15) 100% owned by Fair Isaac Europe Limited
- (16) 100% owned by Fair Isaac (ASPAC) Pte. Ltd.
- (17) 99.98% owned by Fair Isaac International Corporation, .01% owned by Fair Isaac Asia Holdings, Inc. and .01% owned by Fair Isaac Asia Pacific Corp.
- (18) 99% owned by Fair Isaac International Corporation and 1% owned by Fair Isaac Corporation
- (19) 50% owned by Fair Isaac Corporation and 50% owned by Fair Isaac International Corporation

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements No. 333-230061, 333-230059, 333-223492, 333-216171, 333-209761, 333-194231, 333-114364, 333-133268, 333-179417, 333-123751, 333-123750, 333-114365, 333-66348, 333-32398, 333-95889, 333-83905, 333-65179, 333-02121, 333-102848, and 333-63426 on Form S-8 of our reports dated November 8, 2019, relating to the consolidated financial statements of Fair Isaac Corporation (which report expresses an unqualified opinion and includes an explanatory paragraph related to the Company's change in method of accounting for revenue from contracts with customers in fiscal year 2019 due to the adoption of the new revenue standard), and the effectiveness of Fair Isaac Corporation's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Fair Isaac Corporation for the year ended September 30, 2019.

/s/ Deloitte & Touche LLP
San Diego, CA
November 8, 2019

CERTIFICATIONS

I, William J. Lansing, certify that:

1. I have reviewed this annual report on Form 10-K of Fair Isaac Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2019

/s/ WILLIAM J. LANSING

William J. Lansing

Chief Executive Officer

CERTIFICATIONS

I, Michael I. McLaughlin, certify that:

1. I have reviewed this annual report on Form 10-K of Fair Isaac Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2019

/s/ MICHAEL I. MCLAUGHLIN

Michael I. McLaughlin

Chief Financial Officer

**CERTIFICATION UNDER SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned certifies that this periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this periodic report fairly presents, in all material respects, the financial condition and results of operations of Fair Isaac Corporation.

Date: November 8, 2019

/s/ WILLIAM J. LANSING

William J. Lansing

Chief Executive Officer

**CERTIFICATION UNDER SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned certifies that this periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this periodic report fairly presents, in all material respects, the financial condition and results of operations of Fair Isaac Corporation.

Date: November 8, 2019

/s/ MICHAEL I. MCLAUGHLIN

Michael I. McLaughlin
Chief Financial Officer