
**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, 2018
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]
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:

(Title of Class) Common Stock, \$0.01 par value per share	(Name of each exchange on which registered) New York Stock Exchange, Inc.
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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 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-Accelerated Filer	<input type="checkbox"/>		<input type="checkbox"/>
		Emerging Growth Company	<input type="checkbox"/>

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 Exchange 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, 2018, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$3,548,843,145 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 26, 2018 was 28,955,028 (excluding 59,901,755 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 February 28, 2019.

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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. 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 Act. 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 business relationships with vendors, customers or collaborators, including the proportion of revenues generated from international as opposed to domestic customers; and (v) 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,” 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 2019.

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 and/or Amazon Web Services, Inc. (“AWS”), our primary cloud infrastructure provider.
- *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 new 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 and/or 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 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 2018, 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 17%, 19% and 20% of total revenues in each of fiscal 2018, 2017 and 2016, respectively; our customer communication services accounted for 10%, 10% and 9% of total revenues for each of these periods, respectively; and our customer management solutions accounted for 8%, 8% and 9% of total revenues in each of these periods, respectively.

Marketing Applications

FICO offers a suite of marketing 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. Our marketing solutions enable 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.

Origination 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.

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. FICO® Strategy Director, which helps organizations proactively manage consumer accounts to increase revenue, decrease risk and improve customer retention, is offered both on premises and in AWS. FICO’s methodology for segmentation and deployment of predictive analytics enables institutions to deliver faster, fully automated and compliant decisions for a broad range of banking challenges based on each customer’s risk and relationship value.

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; 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.

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.

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. 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.

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.

FICO's cybersecurity products utilize predictive analytics to deliver enterprise-level risk assessments as well as prioritization of tactical cyber threat response. The FICO® Enterprise Security 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 risks introduced by trusted business partners. Separately, FICO® Falcon® Cybersecurity Analytics utilizes advanced streaming self-learning models to help organizations detect and remediate cyber-attacks by reducing the dwell time between when an attack occurs and when it is recognized. These products can be used independently or together as part of a comprehensive cyber risk management program.

Collections & Recovery Applications

FICO® Debt Manager™ solution, FICO® Debt Manager™ Pro, FICO® Debt Manager™ Pro Plus, FICO® PlacementsPlus® service and Placement Optimizer™ solution 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.

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 in 24 countries worldwide. We have installed nine client-specific versions of the FICO® Score in five 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 20 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 noncustomer 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 would affect their FICO® Score. 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 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, 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 2018, 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 building and customizing 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 or in the cloud - FICO analytic cloud or AWS; businesses can choose either or both 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® Analytics Workbench, a new general-purpose predictive analytics modeling and data wrangling tool with FICO proprietary IP to provide explainable artificial intelligence capabilities; 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 is called FICO® Decision Modeler.
- *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® Model Builder, and FICO® Analytics Workbench in the cloud, which enable 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 we have 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.
- *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. In addition to being available for on-premises deployment, FICO® Xpress Optimization is also available 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 their integration with decision management software, and enhanced customer management capabilities we are able to deliver. However, certain competitors may have larger shares of particular geographic or product markets than we do.

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 format; 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, including more than one-third of the top 100 U.S. retailers; 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 2018 *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.

Our scores are marketed and sold through credit reporting agencies. During fiscal 2018, 2017 and 2016, revenues generated from our agreements with Experian, TransUnion and Equifax collectively accounted for 25%, 20% and 19% 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 2018, we continued to make progress with our FICO® Analytic Cloud and FICO® Decision Management Platform initiatives. Most significantly for the fiscal year, we have added distinct FICO IP 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.

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 continue to seek projects in the cybersecurity and security information and event management space that leverage FICO's streaming analytics, transaction profiling and unsupervised modeling technologies. These technologies include those successfully leveraged by our fraud management systems, including the FICO® Falcon® Platform, and new methods we believe to be unique approaches for detecting certain types of cyber security threats.

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 172 U.S. and 17 foreign patents with 90 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, 2018, we employed 3,668 persons worldwide. Of these, 180 full-time employees were located in our San Jose, California office, 398 full-time employees were located in our San Diego, California office, 187 full-time employees were located in our Roseville, Minnesota office, 184 full-time employees were located in our San Rafael, California office, 135 full-time employees were located in our Fairfax, Virginia office, 946 full-time employees were located in our India-based offices and 370 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 2018.

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.

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:

- 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 licensing 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 customer service and technical support personnel to assist customers with product installation and deployment. 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 security 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.

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. Security 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 security 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. Security 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 security 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.

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.

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:

- 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 U.S. Truth In Lending Act and Regulation Z, 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 transmission 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”) adopted by the EU Parliament, the EU Council and the EU Commission, 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; 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;
- Regulations applicable to, or standards and criteria adopted by, secondary market participants (e.g., Fannie Mae and Freddie Mac) that could have an impact on our scoring products, including any regulations, standards or criteria established as the result of Section 310 of the Economic Growth, Regulatory Relief, and Consumer Protection Act (Public Law 115-174);
- 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 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);
- 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 Bureau of Consumer Financial Protection; and
- Laws and regulations regarding export controls as they apply to FICO products delivered in non-U.S. countries.

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. 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.

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 2018, 87% 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. The U.K. has two years to complete these negotiations, and 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.

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 2018, 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 124,000 square feet of office space in San Rafael, California in one building under a lease expiring in fiscal 2020; this is used for all of our segments;
- approximately 84,000 square feet of office space in Bangalore, India in one building under a lease expiring in fiscal 2019; this is used for Applications and Decision Management Software segments;
- approximately 80,000 square feet of office space in San Diego, California in one building under a lease expiring in fiscal 2020; this is used for Applications and Decision Management Software segments; and
- approximately 77,000 square feet of office space in Roseville, Minnesota in one building under a lease expiring in fiscal 2023; 16,000 square feet of this space is subleased to a third party; this is used for all of our segments.

In addition, we lease an aggregate of approximately 249,000 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 18 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 26, 2018, we had 331 stockholders of record of our common stock.

Unregistered Sales of Equity Securities and Use of Proceeds

Not applicable.

Issuer Purchases of Equity Securities

<u>Period</u>	<u>Total Number of Shares Purchased (1)</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)</u>	<u>Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2)</u>
July 1, 2018 through July 31, 2018	276,830	\$ 201.18	271,955	\$ 250,000,000
August 1, 2018 through August 31, 2018	201,445	\$ 218.88	200,000	\$ 206,224,769
September 1, 2018 through September 30, 2018	30,132	\$ 232.39	30,000	\$ 199,252,394
Total	508,407	\$ 210.04	501,955	\$ 199,252,394

(1) Includes 6,452 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, 2018.

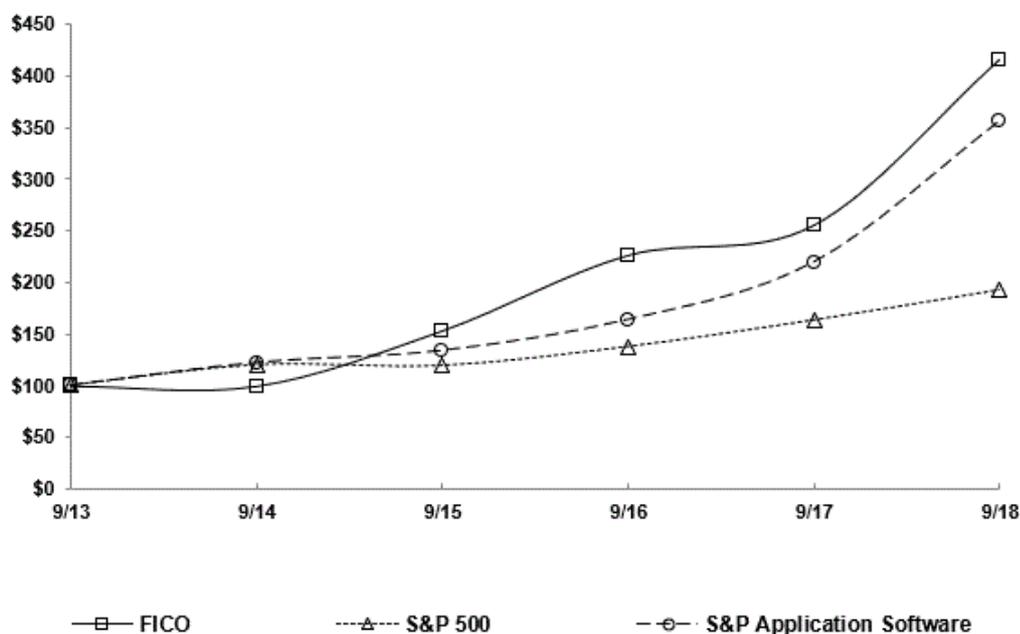
(2) In October 2017, our Board of Directors approved a stock repurchase program following the completion of our previous program. This program was open-ended and authorized repurchases of shares of our common stock up to an aggregate cost of \$250.0 million in the open market or in negotiated transactions. In July 2018, our Board of Directors approved a new stock repurchase program following the completion of the October 2017 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, 2013, 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 9/30/13 in stock or index, including reinvestment of dividends.
Fiscal year ending September 30.

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Item 6. Selected Financial Data

We acquired InfoCentricity, Inc. in April 2014, TONBELLER Aktiengesellschaft in January 2015, and QuadMetrics, Inc. in May 2016. 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,				
	2018	2017 (1)	2016	2015 (1)	2014 (1)
	(In thousands, except per share data)				
Revenues	\$ 1,032,475	\$ 932,169	\$ 881,356	\$ 838,781	\$ 788,985
Operating income	206,437	177,200	169,592	137,505	161,868
Net income	142,415	128,256	109,448	86,502	94,879
Basic earnings per share	4.79	4.16	3.52	2.75	2.80
Diluted earnings per share	4.57	3.98	3.39	2.65	2.72
Dividends declared per share	—	0.04	0.08	0.08	0.08

	September 30,				
	2018	2017	2016	2015	2014
	(In thousands)				
Working capital	\$ (83,703)	\$ (15,724)	\$ 21,561	\$ 42,727	\$ (52,877)
Total assets	1,255,079	1,255,620	1,220,676	1,230,163	1,192,298
Senior notes	513,000	244,000	316,000	376,000	447,000
Revolving line of credit	257,000	361,000	255,000	232,000	99,000
Stockholders' equity	263,737	426,537	446,828	436,998	454,614

(1) Results of operations for fiscal years 2017, 2015 and 2014 included pre-tax charges of \$4.5 million, \$18.2 million and \$4.3 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 2018, 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 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 available through the FICO® Analytic Cloud, and starting fiscal 2017 we added AWS as our primary cloud infrastructure provider. We have migrated several core applications, including the Decision Management Suite, to AWS and will migrate additional applications over the next couple of years. Our cloud bookings accounted for 35% and 24% of our total bookings during fiscal 2018 and 2017, respectively, directly demonstrating the willingness among our customers to engage our cloud-based solutions.

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 launched in 2014, 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 310 million consumer accounts with access to their free FICO® Scores. During fiscal 2017, we announced the FICO Financial Inclusion Initiative, a global effort to increase access to affordable credit for consumers and businesses with limited or no credit history, through the use of alternative data. We continue to pursue additional partners to distribute FICO® Scores with their product offerings sold directly to consumers. In addition, we are pursuing opportunities to make FICO® Scores available to third-parties for affinity, white-labeled programs to further penetrate and expand the markets where our scores are available.

We continue to enhance stockholder value by returning cash to stockholders through our stock repurchase program. During fiscal 2018, we repurchased approximately 1.9 million shares at a total repurchase price of \$336.9 million. As of September 30, 2018, we had \$199.3 million remaining under our current stock repurchase program.

Overview of Financial Results

Total revenues for fiscal 2018 were \$1.03 billion, an increase of 11% from \$932.2 million in fiscal 2017. We continue to drive growth in our Scores segment. Scores revenue increased 29% to \$342.6 million in fiscal 2018 from \$266.4 million in fiscal 2017, and Scores operating income increased 32% to \$279.2 million in fiscal 2018 from \$211.9 million in fiscal 2017. For our Applications and Decision Management Software segments, our cloud business continues to grow both in the absolute dollar value and as a percentage of revenues as we pursue our cloud-first strategy. During fiscal 2018, cloud revenues accounted for \$241.5 million, or 35% of non-Scores revenues, compared to \$202.7 million, or 30% during fiscal 2017.

We derive a significant portion of revenues internationally, and 34% and 36% of total consolidated revenues were derived from clients outside the U.S. during fiscal 2018 and 2017, respectively. A significant portion of our revenues are derived from the sale of products and services within the banking (including consumer credit) industry, and 86% and 74% of our revenues were derived from within this industry during fiscal 2018 and 2017, 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 70% of our revenues during fiscal 2018 and 2017, respectively. Revenue fluctuations in our business are primarily driven by changes in the transactional volume and license fees.

Operating income for fiscal 2018 was \$206.4 million, an increase of 16% from \$177.2 million in fiscal 2017. Operating margin was 20% and 19% for fiscal 2018 and 2017, respectively. Net income increased 11% to \$142.4 million in fiscal 2018 from \$128.3 million in fiscal 2017 primarily due to an increase in operating income, partially offset by the income tax expense related to enactment of the Tax Cuts and Jobs Act. Diluted earnings per share for fiscal 2018 was \$4.57, an increase of 15% from \$3.98 in fiscal 2017.

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. 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	Bookings Yield (1)	Number of Bookings over \$1 Million	Weighted-Average Term (2)
	(In millions)			(months)
Quarter ended September 30, 2018	\$ 133.5	11%	24	31
Quarter ended September 30, 2017	\$ 145.9	16%	32	29
Year ended September 30, 2018	\$ 437.3	29%	80	NM ^(a)
Year ended September 30, 2017	\$ 429.0	36%	88	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 46% and 41% of total bookings for the years ended September 30, 2018 and 2017, respectively. Professional services bookings were 43% and 43% of total bookings for the years ended September 30, 2018 and 2017, respectively. License bookings were 11% and 16% of total bookings for the years ended September 30, 2018 and 2017, 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 geographic information, for the years ended September 30, 2018, 2017 and 2016 are set forth in Note 16 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 2018, 2017 and 2016:

Segment	Revenues Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands)			(In thousands)			
Applications	\$ 585,571	\$ 553,167	\$ 532,642	\$ 32,404	\$ 20,525	6 %	4%
Scores	342,648	266,354	241,059	76,294	25,295	29 %	10%
Decision Management Software	104,256	112,648	107,655	(8,392)	4,993	(7)%	5%
Total	\$ 1,032,475	\$ 932,169	\$ 881,356	100,306	50,813	11 %	6%

Segment	Percentage of Revenues Year Ended September 30,		
	2018	2017	2016
Applications	57%	59%	61%
Scores	33%	29%	27%
Decision Management Software	10%	12%	12%
Total	100%	100%	100%

Applications

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 381,109	\$ 348,861	\$ 328,472	\$ 32,248	\$ 20,389	9 %	6 %
Professional services	142,908	141,857	138,775	1,051	3,082	1 %	2 %
License	61,554	62,449	65,395	(895)	(2,946)	(1)%	(5)%
Total	\$ 585,571	\$ 553,167	\$ 532,642	32,404	20,525	6 %	4 %

Applications segment revenues increased \$32.4 million in fiscal 2018 from 2017 primarily due to an \$11.2 million increase in our *customer communication* services, a \$9.4 million increase in our *originations* solutions, a \$6.0 million increase in our *compliance* solutions, and a \$4.4 million increase in our *customer management* solutions. The increase in *customer communication* services was primarily attributable to an increase in transactional revenue as a result of our continued growth in the mobile communication market. The increase in *originations* solutions was primarily attributable to an increase in transactional and services revenues from our SaaS products. The increase in *compliance* solutions was attributable to an increase in all revenue types. The increase in *customer management* solutions was primarily attributable to an increase in license and transactional revenues.

Applications segment revenues increased \$20.5 million in fiscal 2017 from 2016 primarily due to a \$10.9 million increase in our *originations* solutions and a \$10.5 million increase in our *customer communication* services. The increase in *originations* solutions was primarily attributable to an increase in services and transactional revenues from our SaaS products. The increase in *customer communication* services was primarily attributable to an increase in transactional revenue as a result of our continued growth in the mobile communication market.

Scores

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 337,530	\$ 259,780	\$ 233,655	\$ 77,750	\$ 26,125	30 %	11 %
Professional services	1,751	2,849	4,185	(1,098)	(1,336)	(39)%	(32)%
License	3,367	3,725	3,219	(358)	506	(10)%	16 %
Total	\$ 342,648	\$ 266,354	\$ 241,059	76,294	25,295	29 %	10 %

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 \$15.4 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.

Scores segment revenues increased \$25.3 million in fiscal 2017 from 2016 due to a \$14.2 million increase in our business-to-business scores revenues and an \$11.1 million increase in our business-to-consumer services revenue. The increase in business-to-business scores was primarily attributable to an increase in our transactional scores driven by new originations, prescreen and account management. 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 2018, 2017 and 2016, revenues generated from our agreements with Experian accounted for 11%, 9% and 8%, respectively, of our total revenues, and revenues generated from our agreements with Equifax and TransUnion together accounted for 14%, 11% 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	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands)			(In thousands)			
Transactional and maintenance	\$ 47,420	\$ 44,019	\$ 43,792	\$ 3,401	\$ 227	8 %	1 %
Professional services	32,145	34,863	26,778	(2,718)	8,085	(8)%	30 %
License	24,691	33,766	37,085	(9,075)	(3,319)	(27)%	(9)%
Total	\$ 104,256	\$ 112,648	\$ 107,655	(8,392)	4,993	(7)%	5 %

Decision Management Software segment revenues decreased \$8.4 million in fiscal 2018 from 2017 primarily attributable to a decrease in license revenue related to our FICO® Blaze Advisor®.

Decision Management Software segment revenues increased \$5.0 million in fiscal 2017 from 2016 primarily attributable to an increase in services revenue related to our FICO® Decision Optimizer, partially offset by 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 2018, 2017 and 2016:

	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands, except employees)			(In thousands, except employees)			
Revenues	\$ 1,032,475	\$ 932,169	\$ 881,356	\$ 100,306	\$ 50,813	11 %	6 %
Operating expenses:							
Cost of revenues	310,699	287,123	265,173	23,576	21,950	8 %	8 %
Research and development	128,383	110,870	103,669	17,513	7,201	16 %	7 %
Selling, general and administrative	380,362	339,796	328,940	40,566	10,856	12 %	3 %
Amortization of intangible assets	6,594	12,709	13,982	(6,115)	(1,273)	(48)%	(9)%
Restructuring and acquisition-related	—	4,471	—	(4,471)	4,471	(100)%	— %
Total operating expenses	826,038	754,969	711,764	71,069	43,205	9 %	6 %
Operating income	206,437	177,200	169,592	29,237	7,608	16 %	4 %
Interest expense, net	(31,311)	(25,790)	(26,633)	(5,521)	843	21 %	(3)%
Other income (expense), net	12,884	(86)	1,610	12,970	(1,696)	(15,081)%	(105)%
Income before income taxes	188,010	151,324	144,569	36,686	6,755	24 %	5 %
Provision for income taxes	45,595	23,068	35,121	22,527	(12,053)	98 %	(34)%
Net income	\$ 142,415	\$ 128,256	\$ 109,448	14,159	18,808	11 %	17 %
Number of employees at fiscal year-end	3,668	3,299	3,088	369	211	11 %	7 %

	Percentage of Revenues Year Ended September 30,		
	2018	2017	2016
Revenues	100 %	100 %	100 %
Operating expenses:			
Cost of revenues	30 %	31 %	30 %
Research and development	12 %	12 %	12 %
Selling, general and administrative	37 %	36 %	37 %
Amortization of intangible assets	1 %	1 %	2 %
Restructuring and acquisition-related	— %	1 %	— %
Total operating expenses	80 %	81 %	81 %
Operating income	20 %	19 %	19 %
Interest expense, net	(3)%	(3)%	(3)%
Other income (expense), net	1 %	— %	— %
Income before income taxes	18 %	16 %	16 %
Provision for income taxes	4 %	2 %	4 %
Net income	14 %	14 %	12 %

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 2018 over 2017 increase of \$23.6 million in cost of revenues expenses was primarily attributable to a \$13.4 million increase in facilities and infrastructure costs and a \$7.7 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 30% during fiscal 2018, materially consistent with that incurred during fiscal 2017.

Cost of revenues as a percentage of revenues increased to 31% during fiscal 2017 from 30% during fiscal 2016. The \$22.0 million increase was primarily attributable to a \$14.6 million increase in personnel and labor costs and a \$7.4 million increase in allocated facilities and infrastructure costs. The increase in personnel and labor costs was primarily attributable to an increase in professional services delivery cost driven by higher services revenue and an increase in salaries and benefit costs as a result of our increased headcount. The increase in allocated facilities and infrastructure costs was primarily attributable to increased resource requirements due to our expanded investment in product delivery, support and infrastructure operations.

In fiscal 2019, we expect cost of revenues as a percentage of revenues will be consistent with those incurred during fiscal 2018.

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 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 were 12% during fiscal 2018, consistent with those incurred during fiscal 2017.

The fiscal 2017 over 2016 increase of \$7.2 million in research and development expenses was primarily attributable to a \$5.0 million increase in personnel and labor costs and a \$2.6 million increase in facilities and infrastructure costs, mainly driven by our continued investment in the areas of cloud computing and SaaS, as well as new products primarily in the Decision Management Software segment. Research and development expenses as a percentage of revenues were 12% during fiscal 2017, consistent with those incurred during fiscal 2016.

In fiscal 2019, we expect that research and development expenditures as a percentage of revenues will be consistent with or slightly higher than those incurred during fiscal 2018.

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 2018 over 2017 increase of \$40.6 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.

The fiscal 2017 over 2016 increase of \$10.9 million was primarily attributable to a \$21.0 million increase in labor and personnel costs, partially offset by a \$4.0 million decrease in marketing expenses and a \$6.6 million decrease in outside services. The increase in personnel costs was primarily attributable to an increase in salaries and benefits as a result of our increased headcount, an increase in commission cost driven by revenue growth, and an increase in stock-based compensation cost. The decrease in marketing expenses was primarily attributable to a company-wide marketing event during our fiscal 2016. The decrease in outside services was primarily attributable to a one-time settlement during fiscal 2017. Selling, general and administrative expenses as a percentage of revenues was 36% during fiscal 2017, materially consistent with those incurred during fiscal 2016.

In fiscal 2019, we expect that selling, general and administrative expenses as a percentage of revenues will be consistent with those incurred during fiscal 2018.

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 five to fifteen years.

The fiscal 2018 over 2017 decrease in amortization expense of \$6.1 million was primarily attributable to certain intangible assets associated with our Adepra and HNC acquisitions becoming fully amortized in fiscal 2017.

The fiscal 2017 over 2016 decrease in amortization expense of \$1.3 million was primarily attributable to certain intangible assets associated with our Adepra, HNC and Entiera acquisitions becoming fully amortized in fiscal 2017 and 2016.

In fiscal 2019, we expect amortization expense will be slightly lower than that incurred in fiscal 2018.

Restructuring and Acquisition-Related

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

There were no restructuring or acquisition-related expenses incurred during fiscal 2016.

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 2018 over 2017 increase in net interest expense of \$5.8 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 (as discussed below) compared to that on our revolving line of credit.

The fiscal 2017 over 2016 decrease in net interest expense of \$0.8 million was primarily attributable to the \$72.0 million and \$60.0 million principal payments in July 2017 and July 2016, respectively, on the senior notes issued in July 2010, resulting in lower average debt balances for fiscal 2017, partially offset by a higher average outstanding balance on our revolving line of credit.

In fiscal 2019, we expect net interest expense will be higher than what we incurred during fiscal 2018.

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 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 in which we had a minority interest, as well as an increase in foreign currency exchange gain during fiscal 2018.

The fiscal 2017 over 2016 change in other income (expense), net of \$1.7 million was primarily attributable to an increase in foreign currency exchange loss during fiscal 2017.

Provision for Income Taxes

Our effective tax rates were 24.3%, 15.2% and 24.3% in fiscal 2018, 2017 and 2016, respectively.

The increase in our income tax provision in fiscal 2018 compared to fiscal 2017 is primarily due to recording the impact related to the enactment of the Tax Act in fiscal 2018. This includes re-measurement to our deferred tax assets and liabilities for the tax rate changes, the one-time Transition Tax, and a provisional charge related to the loss of deductibility of performance-based compensation for certain employees.

The decrease in our effective tax rate in fiscal 2017 compared to fiscal 2016 was due primarily to the adoption of ASU 2016-09 on October 1, 2016. We no longer record excess tax benefits as an increase to additional paid-in capital, but record such excess tax benefits on a prospective basis as a reduction of income tax expense.

Prior to the enactment of the Tax Act we had not made a provision for U.S. income or additional foreign withholding taxes on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries as we intended to reinvest the earnings of our non-U.S. subsidiaries in those operations indefinitely, except where we were able to repatriate these earnings to the U.S. without material incremental tax provision. As of September 30, 2018, we have approximately \$79.7 million of unremitted earnings of non-U.S. subsidiaries, of which \$57.9 million was included in our current year provision for income taxes due to the one-time Transition Tax on the deemed repatriation of deferred foreign income under the Tax Act. 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. While the Transition Tax resulted in the reduction of the excess of the amount for financial reporting over the tax basis in our foreign subsidiaries such that a repatriation may not result in additional U.S. income tax, an actual repatriation from our non-US subsidiaries could still be subject to additional foreign withholding taxes and U.S. state taxes.

Operating Income

The following tables set forth certain summary information on a segment basis related to our operating income for the fiscal 2018, 2017 and 2016:

Segment	Year Ended September 30,			Period-to-Period Change		Period-to-Period Percentage Change	
	2018	2017	2016	2018 to 2017	2017 to 2016	2018 to 2017	2017 to 2016
	(In thousands)			(In thousands)			
Applications	\$ 164,576	\$ 159,500	\$ 168,271	\$ 5,076	\$ (8,771)	3 %	(5)%
Scores	279,171	211,918	185,084	67,253	26,834	32 %	14 %
Decision Management Software	(30,647)	(10,818)	(3,660)	(19,829)	(7,158)	183 %	196 %
Unallocated corporate expenses	(125,255)	(104,998)	(110,612)	(20,257)	5,614	19 %	(5)%
Total segment operating income	287,845	255,602	239,083	32,243	16,519	13 %	7 %
Unallocated share-based compensation	(74,814)	(61,222)	(55,509)	(13,592)	(5,713)	22 %	10 %
Unallocated amortization expense	(6,594)	(12,709)	(13,982)	6,115	1,273	(48)%	(9)%
Unallocated restructuring and acquisition-related	—	(4,471)	—	4,471	(4,471)	(100)%	— %
Operating income	\$ 206,437	\$ 177,200	\$ 169,592	29,237	7,608	16 %	4 %

Applications

	Year Ended September 30,			Percentage of Revenues		
	2018	2017	2016	2018	2017	2016
	(In thousands)					
Segment revenues	\$ 585,571	\$ 553,167	\$ 532,642	100 %	100 %	100 %
Segment operating expenses	(420,995)	(393,667)	(364,371)	(72)%	(71)%	(68)%
Segment operating income	\$ 164,576	\$ 159,500	\$ 168,271	28 %	29 %	32 %

Scores

	Year Ended September 30,			Percentage of Revenues		
	2018	2017	2016	2018	2017	2016
	(In thousands)					
Segment revenues	\$ 342,648	\$ 266,354	\$ 241,059	100 %	100 %	100 %
Segment operating expenses	(63,477)	(54,436)	(55,975)	(19)%	(20)%	(23)%
Segment operating income	\$ 279,171	\$ 211,918	\$ 185,084	81 %	80 %	77 %

Decision Management Software

	Year Ended September 30,			Percentage of Revenues		
	2018	2017	2016	2018	2017	2016
	(In thousands)					
Segment revenues	\$ 104,256	\$ 112,648	\$ 107,655	100 %	100 %	100 %
Segment operating expenses	(134,903)	(123,466)	(111,315)	(129)%	(110)%	(103)%
Segment operating loss	\$ (30,647)	\$ (10,818)	\$ (3,660)	(29)%	(10)%	(3)%

The fiscal 2018 over 2017 increase in operating income of \$29.2 million was attributable to a \$100.3 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, partially offset by a \$47.8 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.

At the segment level, the \$32.2 million increase in segment operating income was the result of a \$67.2 million increase in our Scores segment operating income and a \$5.1 million increase in our Applications segment operating income, partially offset by 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, and a \$19.8 million increase in our Decision Management Software segment operating loss.

The \$5.1 million increase in Applications segment operating income was attributable to a \$32.4 million increase in segment revenue, partially offset by a \$27.3 million increase in segment operating expenses. Segment operating income as a percentage of segment revenue for Applications was 28%, materially consistent with fiscal 2017.

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 was 81%, materially consistent with fiscal 2017.

The \$19.8 million increase in Decision Management Software segment operating loss was attributable to an \$11.4 million increase in segment operating expenses and an \$8.4 million decrease in segment revenue. Segment operating margin for Decision Management Software decreased to a negative 29% from a negative 10% 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.

The fiscal 2017 over 2016 increase in operating income of \$7.6 million was attributable to a \$50.8 million increase in segment revenues, a \$5.6 million decrease in unallocated corporate expenses and a \$1.3 million decrease in amortization expense, partially offset by a \$39.9 million increase in segment operating expenses, a \$5.7 million increase in share-based compensation expense and a \$4.5 million increase in restructuring and acquisition-related expenses.

At the segment level, the \$16.5 million increase in segment operating income was the result of a \$26.8 million increase in our Scores segment operating income and a \$5.6 million decrease in unallocated corporate expenses, partially offset by an \$8.8 million decrease in our Applications segment operating income and a \$7.1 million increase in our Decision Management Software segment operating loss.

The \$8.8 million decrease in Applications segment operating income was attributable to a \$29.3 million increase in segment operating expenses, partially offset by a \$20.5 million increase in segment revenue. Segment operating income as a percentage of segment revenue for Applications decreased to 29% from 32% primarily due to a decrease in sales of our higher-margin software products and an increase in professional services delivery cost.

The \$26.8 million increase in Scores segment operating income was attributable to a \$25.3 million increase in segment revenue and a \$1.5 million decrease in segment operating expenses. Segment operating income as a percentage of segment revenue for Scores increased to 80% from 77% mainly due to an increase in sales of our higher-margin score products.

The \$7.1 million increase in Decision Management Software segment operating loss was attributable to a \$12.1 million increase in segment operating expenses, partially offset by a \$5.0 million increase in segment revenue. Segment operating margin for Decision Management Software decreased to a negative 10% from a negative 3% mainly due to a decrease in sales of our higher-margin software products, our continued investment in sales distribution, and expanded investment in cloud infrastructure operations.

CAPITAL RESOURCES AND LIQUIDITY

Outlook

As of September 30, 2018, we had \$90.0 million in cash and cash equivalents, which included \$75.9 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 \$28.0 million principal payment due in July 2019 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,		
	2018	2017	2016
	(In thousands)		
Cash provided by (used in):			
Operating activities	\$ 223,052	\$ 225,644	\$ 210,268
Investing activities	(14,119)	(20,605)	(27,615)
Financing activities	(218,627)	(180,625)	(190,015)
Effect of exchange rate changes on cash	(5,901)	5,278	(2,832)
Increase (decrease) in cash and cash equivalents	\$ (15,595)	\$ 29,692	\$ (10,194)

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 \$223.1 million in fiscal 2018 compared to \$225.6 million in fiscal 2017. The \$2.5 million decrease was mainly attributable to a \$43.8 million decrease that resulted from timing of receipts and payments in our ordinary course of business, partially offset by a \$26.9 million increase in non-cash items, including a \$31.8 million increase in non-cash deferred income taxes and \$10 million non-operating gain related to the divestiture of a cost-method investment; as well as a \$14.2 million increase in net income.

Net cash provided by operating activities totaled \$225.6 million in fiscal 2017 compared to \$210.3 million in fiscal 2016. The \$15.3 million increase was mainly attributable to a \$20.0 million decrease in our deferred income tax provision and an \$18.8 million increase in net income, partially offset by a \$24.2 million excess tax benefit related to share-based payments that was recorded as an increase to additional paid-in capital in the prior year but was recorded as a reduction of income tax expense in the current year as a result of our early adoption of ASU 2016-09 effective October 1, 2016.

Cash Flows from Investing Activities

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.

Net cash used in investing activities totaled \$20.6 million in fiscal 2017 compared to \$27.6 million in fiscal 2016. The \$7.0 million decrease was primarily attributable to a \$5.7 million decrease in net cash used for acquisitions and a \$2.1 million decrease in net cash used for purchases of property and equipment.

Cash Flows from Financing Activities

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.

Net cash used in financing activities totaled \$180.6 million in fiscal 2017 compared to \$190.0 million in fiscal 2016. The \$9.4 million decrease was primarily due to an \$83.0 million increase in proceeds, net of payments from our revolving line of credit, partially offset by a \$49.2 million increase in net cash used for repurchases of common stock, a \$12.0 million increase in payment on our senior notes, and a \$10.3 million increase in taxes paid related to net share settlement of equity awards.

Repurchases of Common Stock

In October 2017, our Board of Directors approved a stock repurchase program following the completion of the previously authorized 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. In July 2018, our Board of Directors approved a new stock repurchase program following the completion of the October 2017 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, 2018, we had \$199.3 million remaining under this authorization. During fiscal 2018, 2017 and 2016, we expended \$336.9 million, \$193.3 million and \$138.4 million, respectively, under these and previously authorized stock repurchase programs.

Dividends

We paid dividends of \$0.02 per share on a quarterly basis during each of fiscal 2015 and 2016, and 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, 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, 2018, we had \$257.0 million in borrowings outstanding at a weighted average interest rate of 3.555% and were in compliance with all financial covenants under this credit facility.

Senior Notes

On May 7, 2008, we issued \$275 million of senior notes in a private placement to a group of institutional investors, the outstanding aggregate principal amount of which was paid in full at maturity on May 7, 2018. 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 5.6% and the weighted average maturity is 9.8 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, 2018, the carrying value of the Senior Notes was \$513.0 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, 2018:

	Year Ending September 30,						Thereafter	Total
	2019	2020	2021	2022	2023			
	(In thousands)							
Senior notes (1)	\$ 28,000	\$ 85,000	\$ —	\$ —	\$ —	\$ 400,000	\$ 513,000	
Interest due on debt obligations (2)	27,677	25,752	21,000	21,000	21,000	63,000	179,429	
Operating lease obligations	24,224	15,694	15,768	14,151	12,866	33,030	115,733	
Unrecognized tax benefits (3)	—	—	—	—	—	—	6,113	
Total commitments	\$ 79,901	\$ 126,446	\$ 36,768	\$ 35,151	\$ 33,866	\$ 496,030	\$ 814,275	

(1) Represents the unpaid principal amount of the Senior Notes.

(2) Represents interest payments on the Senior Notes.

(3) 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

Software Licenses

Software license fee revenue is recognized when persuasive evidence of an arrangement exists, software is made available to our customers, the fee is fixed or determinable and collection is probable. The determination of whether fees are fixed or determinable and collection is probable involves the use of assumptions. If at the outset of an arrangement we determine that the arrangement fee is not fixed or determinable, revenue is deferred until the arrangement fee becomes fixed or determinable, assuming all other revenue recognition criteria have been met. If at the outset of an arrangement we determine that collectability is not probable, revenue is deferred until the earlier of when collectability becomes probable or the receipt of payment. If there is uncertainty as to the customer's acceptance of our deliverables, revenue is not recognized until the earlier of receipt of customer acceptance, expiration of the acceptance period, or when we can demonstrate we meet the acceptance criteria. We evaluate contract terms and customer information to ensure that these criteria are met prior to our recognition of license fee revenue.

We use the residual method to recognize revenue when a software arrangement includes one or more elements to be delivered at a future date provided the following criteria are met: (i) vendor-specific objective evidence ("VSOE") of the fair value does not exist for one or more of the delivered items but exists for all undelivered elements, (ii) all other applicable revenue recognition criteria are met and (iii) the fair value of all of the undelivered elements is less than the arrangement fee. VSOE of fair value is based on the normal pricing practices for those products and services when sold separately by us and customer renewal rates for post-contract customer support services. Under the residual method, the fair value of the undelivered elements is deferred and the remaining portion of the arrangement fee is recognized as revenue. If evidence of the fair value of one or more undelivered elements does not exist, the revenue is deferred and recognized when delivery of those elements occurs or when fair value can be established. Changes to the elements in a software arrangement, the ability to identify VSOE for those elements, the fair value of the respective elements, and change to a product's estimated life cycle could materially impact the amount of earned and unearned revenue.

Revenues from post-contract customer support services, such as software maintenance, are recognized on a straight-line basis over the term of the support period. The majority of our software maintenance agreements provide technical support as well as unspecified software product upgrades and releases when and if made available by us during the term of the support period.

Transactional-Based Revenues

Transactional-based revenue is recognized when persuasive evidence of an arrangement exists, fees are fixed or determinable, and collection is probable. Revenues from our credit scoring, data processing, data management and SaaS subscription services are recognized as these services are performed. Revenues from transactional or unit-based license fees under software license arrangements, credit scoring, data processing, data management and SaaS subscription services agreements are recognized based on minimum contractual amounts or on system usage that exceeds minimum contractual amounts. Certain of our transactional-based revenues are based on transaction or active account volumes as reported by our clients. In instances where volumes are reported to us in arrears, we estimate volumes based on preliminary customer transaction information or average actual reported volumes for an immediate trailing period. Differences between our estimates and actual final volumes reported are recorded in the period in which actual volumes are reported. We have not experienced significant variances between our estimates and actual reported volumes in the past and anticipate that we will be able to continue to make reasonable estimates in the future. If for some reason we were unable to reasonably estimate transaction volumes in the future, revenue may be deferred until actual customer data is received, and this could have a material impact on our consolidated results of operations.

Consulting Services

We provide consulting, training, model development and software integration services under both hourly-based time and materials and fixed-priced contracts. Revenues from these services are generally recognized as the services are performed. For fixed-price service contracts, we use a proportionate performance model with hours as the input method of attribution to determine progress towards completion, with consideration also given to output measures, such as contract milestones, when applicable. In such instances, management is required to estimate the total estimated hours of the project. Adjustments to estimates are made in the period in which the facts requiring such revisions become known and, accordingly, recognized revenues and profits are subject to revisions as the contract progresses to completion. Estimated losses, if any, are recorded in the period in which current estimates of total contract revenue and contract costs indicate a loss. If substantive uncertainty related to customer acceptance of services exists, we defer the associated revenue until the contract is completed. We have not experienced significant variances between our estimates and actual hours in the past and anticipate that we will be able to continue to make reasonable estimates in the future. If for some reason we are unable to accurately estimate the input measures, revenue would be deferred until the contract is complete, and this could have a material impact on our consolidated results of operations.

Services that are sold in connection with software license arrangements generally qualify for separate accounting from the license element because they do not involve significant production, modification or customization of our products and are not otherwise considered to be essential to the functionality of our software. In arrangements where the professional services do not qualify for separate accounting from the license element, the combined software license and professional services revenue are recognized based on contract accounting using either the percentage-of-completion or completed-contract method.

Multiple-Deliverable Arrangements including Non-Software

When we enter into a multiple-deliverable arrangement that includes non-software, each deliverable is accounted for as a separate unit of accounting if the following criteria are met: (i) the delivered item or items have value to the customer on a standalone basis and (ii) for an arrangement that includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in our control. We consider a deliverable to have standalone value if we sell this item separately or if the item is sold by another vendor or could be resold by the customer; for example, we conclude professional services offered along with our SaaS subscription services typically have standalone value using this criteria. Further, our revenue arrangements generally do not include a general right of return relative to delivered products. Revenue for multiple element arrangements is allocated to the software and non-software deliverables based on a relative selling price. We use VSOE in our allocation of arrangement consideration when it is available. We define VSOE as a median price of recent standalone transactions that are priced within a narrow range, as defined by us. If a product or service is seldom sold separately, it is unlikely that we can determine VSOE. In circumstances when VSOE does not exist, we then assess whether we can obtain third-party evidence (“TPE”) of the selling price. It may be difficult for us to obtain sufficient information on competitor pricing to substantiate TPE and therefore we may not always be able to use TPE. When we are unable to establish selling price using VSOE or TPE, we use estimated selling price (“ESP”) in our allocation of arrangement consideration. The objective of ESP is to determine the price at which we would transact if the product or service were sold by us on a standalone basis. Our determination of ESP involves weighting several factors based on the specific facts and circumstances of each arrangement. The factors include, but are not limited to, geographies, market conditions, gross margin objectives, pricing practices and controls, customer segment pricing strategies and the product lifecycle. Historically, there have been no significant changes in our ESP used in allocation of arrangement consideration. We do not believe there is a reasonable likelihood there will be a material change in the future estimates.

If a deliverable does not have standalone value because the aforementioned criteria are not met, we combine it with the other applicable undelivered item(s) within the arrangement and account for the multiple deliverables as one combined unit of accounting. For example, for hosting arrangements requiring a highly specialized and unique set of initial implementation and setup services prior to the commencement of hosting services, we typically conclude that these implementation or setup services do not have value to the customer on a stand-alone basis; therefore, we combine them with the hosting services as a combined unit of accounting. Revenue is recognized upon commencement of our hosting services over the expected life of the customer relationship.

Gross vs. Net Revenue Reporting

We apply accounting guidance to determine whether we report revenue for certain transactions based upon the gross amount billed to the customer, or the net amount retained by us. In accordance with the guidance we record revenue on a gross basis for sales in which we have acted as the principal and on a net basis for those sales in which we have in substance acted as an agent or broker in the transaction.

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 2016, 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. 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, 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.

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 2018, 2017 and 2016.

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 14 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. We have historically had minimal changes in our valuation allowances related to deferred tax assets, as described in Note 13 to the accompanying consolidated financial statements.

The Tax Cuts and Jobs Act of 2017 (the “Tax Act”), as signed by the U.S. President on December 22, 2017, significantly revises U.S. tax law. The legislation reduces the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were indefinitely reinvested and creates new taxes on certain foreign sourced earnings. The Tax Act adds many new provisions including changes to bonus depreciation, the deduction for executive compensation and interest expense, a tax on global intangible low taxed income (“GILTI”), the base erosion anti-abuse tax, a deduction for foreign derived intangible income, and the repeal of the deduction for domestic production activities. Some of these provisions, such as tax on GILTI, the repeal of the deduction for domestic production activities, and executive compensation, may not apply to the Company with full effect until future years. The Company is assessing the impact of the provisions of the Tax Act that do not apply until later years. The items that impact the Company for fiscal 2018 include, but are not limited to, 1) reduction of the U.S. federal corporate income tax rate; (2) a one-time transition tax on certain un-repatriated earnings of foreign subsidiaries; and (3) repeal of the performance-based compensation exception to the \$1 million deduction limitation.

The SEC staff issued Staff Accounting Bulletin No. 118 (“SAB 118”) in December 2017, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under FASB Accounting Standards Codification (“ASC”) 740, “*Accounting for Income Taxes*” (“ASC 740”). In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company’s accounting for certain income tax effects of the Tax Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

The Tax Act was effective in the first quarter of fiscal 2018. As of September 30, 2018, we have not completed our accounting for the estimated tax effects for the Transition Tax nor the excessive employee remuneration. During fiscal 2018, we recorded a provisional net charge of \$9.6 million related to the Tax Act based on reasonable estimates for those tax effects and \$14.0 million for the re-measurement of the deferred tax assets and liabilities, in which accounting is now complete. Due to the timing of the enactment and the complexity in applying the provisions of the Tax Act, the provisional net charge is subject to revisions as we continue to complete our analysis, collect and prepare necessary data, and interpret any additional guidance issued by the U.S. Treasury Department, Internal Revenue Service (“IRS”), FASB, and other standard-setting and regulatory bodies. Adjustments may materially impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. Our accounting for the estimated tax effects of the Tax Act will be completed during the measurement period, which is not expected to extend beyond one year from the enactment date.

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 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. Historically, settlements related to our unrecognized tax benefits have been minimal as described in Note 13 to the accompanying consolidated financial statements.

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

Recent Accounting Pronouncements Not Yet Adopted

In February 2018, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) No. 2018-02, “*Income Statement — Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*” (“ASU 2018-02”). ASU 2018-02 allows reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act and requires certain disclosures about stranded tax effects. The guidance is effective for fiscal years and interim periods beginning after December 15, 2018, which means it will be effective for our fiscal year beginning October 1, 2019. ASU 2018-02 should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Act is recognized. We do not believe that adoption of ASU 2018-02 will have a significant impact on our consolidated financial statements.

In October 2016, the FASB issued ASU No. 2016-16, “*Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*” (“ASU 2016-16”). ASU 2016-16 requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. The guidance is effective for fiscal years and interim periods beginning after December 15, 2017, which means it will be effective for our fiscal year beginning October 1, 2018. ASU 2016-16 should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings at the beginning of the period of adoption. Early adoption is permitted as of the beginning of an annual reporting period for which financial statements (interim or annual) have not been issued. We do not believe that adoption of ASU 2016-16 will have a significant impact on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, “*Leases (Topic 842)*” (“ASU 2016-02”), which requires lessees to put most leases on their balance sheets but recognize the expenses on their income statements in a manner similar to current practice. ASU 2016-02 states that a lessee would recognize a lease liability for the obligation to make lease payments and a right-to-use asset for the right to use the underlying asset for the lease term. ASU 2016-02 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.

In May 2014, the FASB issued ASU No. 2014-09, “*Revenue from Contracts with Customers (Topic 606)*” (“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 method), or the retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (modified retrospective method). We have adopted the standard using the full retrospective method.

The standard is effective for us beginning October 1, 2018. In preparation for adoption of the new standard, we have implemented internal controls and key system functionality to enable the preparation of financial information and have reached conclusions on key accounting assessments related to the standard, including our assessment of the impact of accounting for costs incurred to obtain a contract.

The most significant impact of the standard relates to the timing of revenue recognition for term licenses and transactional revenue on guaranteed minimum fees related to our on-premises software products. Under the new standard, we expect to recognize revenue when control of the license transfers 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 current standard. In addition, revenue attributable to a software license renewal will be recognized at the beginning of the applicable renewal period, rather than at the signing of the renewal agreement as required under the current standard. Finally, when we enter into non-cancellable 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 expect to present the unconditional rights as receivables regardless of whether cash has been received from customers.

In addition, Accounting Standards Codification Subtopic 340-40, “*Other Assets and Deferred Costs - Contracts with Customers*” (“ASC 340”), requires us to recognize an asset for the incremental costs of obtaining a contract with a customer if our sales incentive programs meet requirements for capitalization. Previously we recorded these incremental costs of obtaining a contract, primarily commission expense, when we booked a sales transaction, whereas under ASC 340, we record an asset for the incremental cost to obtain a contract and recognize the cost over the expected revenue recognition period.

We estimate the adoption of the standard will result in a revenue reduction of approximately \$32.3 million and an increase of approximately \$2.8 million during our fiscal years 2018 and 2017, respectively. This is primarily due to change in timing of recognition of license revenue — when control of license transfers versus when fees became due and payable, and only at the beginning of the renewal period when applicable — from arrangements entered into during fiscal years 2018 and 2017, as well as arrangements entered into prior to fiscal 2017. In addition, while we continue to evaluate other impacts Topic 606 will have on our consolidated financial statements, including those related to our commission costs and receivables accounts as mentioned above, we do not expect the impact will be material to our consolidated financial statements.

In future periods, the new standard will require us to disclose additional information in the notes to our consolidated financial statements, including disaggregation of our revenue, remaining performance obligations, and other quantitative and qualitative information about our contracts with customers.

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, 2018 and 2017:

	September 30, 2018			September 30, 2017		
	Cost Basis	Carrying Amount	Average Yield	Cost Basis	Carrying Amount	Average Yield
	(Dollars in thousands)					
Cash and cash equivalents	\$ 90,023	\$ 90,023	0.66%	\$ 105,618	\$ 105,618	0.56%

On May 7, 2008, we issued \$275 million of senior notes to a group of institutional investors in a private placement (the “2008 Senior Notes”), the outstanding aggregate principal amount of which was paid in full at maturity on May 7, 2018. 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 2008 Senior Notes and 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, 2018 and 2017:

	September 30, 2018		September 30, 2017	
	Carrying Amounts	Fair Value	Carrying Amounts	Fair Value
(In thousands)				
The 2008 Senior Notes	\$ —	\$ —	\$ 131,000	\$ 134,250
The 2010 Senior Notes	113,000	114,413	113,000	119,106
The 2018 Senior Notes	400,000	\$ 404,000	—	—
Total	\$ 513,000	\$ 518,413	\$ 244,000	\$ 253,356

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 \$257.0 million in borrowings outstanding at a weighted average interest of 3.555% under the credit facility as of September 30, 2018.

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, 2018 and 2017:

	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

	September 30, 2017		
	Contract Amount		Fair Value
	Foreign Currency	US\$	US\$
(In thousands)			
Sell foreign currency:			
Euro (EUR)	EUR	5,050 \$	5,968
Buy foreign currency:			
British pound (GBP)	GBP	9,341 \$	12,500

The foreign currency forward contracts were entered into on September 30 of each fiscal year; therefore, the fair value was \$0 on September 30, 2018 and 2017.

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, 2018 and 2017, 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, 2018, 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, 2018, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2018, 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, 2018, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

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 by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel 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.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis.

Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

San Diego, CA

November 9, 2018

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

FAIR ISAAC CORPORATION
CONSOLIDATED BALANCE SHEETS

	September 30,	
	2018	2017
	(In thousands, except par value data)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 90,023	\$ 105,618
Accounts receivable, net	208,865	168,586
Prepaid expenses and other current assets	39,624	36,727
Total current assets	338,512	310,931
Marketable securities	18,059	13,791
Other investments	1,697	11,724
Property and equipment, net	48,837	40,703
Goodwill	800,890	804,414
Intangible assets, net	14,536	21,185
Deferred income taxes	20,117	47,204
Other assets	12,431	5,668
Total assets	\$ 1,255,079	\$ 1,255,620
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 20,251	\$ 19,510
Accrued compensation and employee benefits	84,292	77,610
Other accrued liabilities	30,457	32,104
Deferred revenue	52,215	55,431
Current maturities on debt	235,000	142,000
Total current liabilities	422,215	326,655
Long-term debt	528,944	462,801
Other liabilities	40,183	39,627
Total liabilities	991,342	829,083
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 29,015 and 30,243 shares outstanding at September 30, 2018 and September 30, 2017, respectively)	290	302
Paid-in-capital	1,211,051	1,195,431
Treasury stock, at cost (59,842 and 58,614 shares at September 30, 2018 and September 30, 2017, respectively)	(2,612,007)	(2,301,097)
Retained earnings	1,740,810	1,598,395
Accumulated other comprehensive loss	(76,407)	(66,494)
Total stockholders' equity	263,737	426,537
Total liabilities and stockholders' equity	\$ 1,255,079	\$ 1,255,620

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

	Year Ended September 30,		
	2018	2017	2016
(In thousands, except per share data)			
Revenues:			
Transactional and maintenance	\$ 766,059	\$ 652,660	\$ 605,919
Professional services	176,804	179,569	169,738
License	89,612	99,940	105,699
Total revenues	<u>1,032,475</u>	<u>932,169</u>	<u>881,356</u>
Operating expenses:			
Cost of revenues (1)	310,699	287,123	265,173
Research and development	128,383	110,870	103,669
Selling, general and administrative (1)	380,362	339,796	328,940
Amortization of intangible assets (1)	6,594	12,709	13,982
Restructuring and acquisition-related	—	4,471	—
Total operating expenses	<u>826,038</u>	<u>754,969</u>	<u>711,764</u>
Operating income	206,437	177,200	169,592
Interest expense, net	(31,311)	(25,790)	(26,633)
Other income (expense), net	12,884	(86)	1,610
Income before income taxes	188,010	151,324	144,569
Provision for income taxes	45,595	23,068	35,121
Net income	<u>142,415</u>	<u>128,256</u>	<u>109,448</u>
Other comprehensive income (loss):			
Foreign currency translation adjustments	(9,913)	10,517	(26,296)
Comprehensive income	<u>\$ 132,502</u>	<u>\$ 138,773</u>	<u>\$ 83,152</u>
Basic earnings per share	<u>\$ 4.79</u>	<u>\$ 4.16</u>	<u>\$ 3.52</u>
Shares used in computing basic earnings per share	<u>29,711</u>	<u>30,862</u>	<u>31,129</u>
Diluted earnings per share	<u>\$ 4.57</u>	<u>\$ 3.98</u>	<u>\$ 3.39</u>
Shares used in computing diluted earnings per share	<u>31,180</u>	<u>32,245</u>	<u>32,308</u>

(1) Cost of revenues and selling, general and administrative expenses exclude the amortization of intangible assets. See Note 7.

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
Years Ended September 30, 2018, 2017 and 2016
(In thousands, except per share data)

	Common Stock		Paid-in-Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Par Value					
Balance at September 30, 2015	31,290	\$ 313	\$ 1,156,626	\$ (2,033,644)	\$ 1,364,418	\$ (50,715)	\$ 436,998
Share-based compensation	—	—	55,509	—	—	—	55,509
Issuance of treasury stock under employee stock plans	980	10	(47,406)	35,269	—	—	(12,127)
Tax effect from share-based payment arrangements	—	—	24,184	—	—	—	24,184
Repurchases of common stock	(1,335)	(14)	—	(138,385)	—	—	(138,399)
Dividends paid	—	—	—	—	(2,489)	—	(2,489)
Net income	—	—	—	—	109,448	—	109,448
Foreign currency translation adjustments	—	—	—	—	—	(26,296)	(26,296)
Balance at September 30, 2016	30,935	309	1,188,913	(2,136,760)	1,471,377	(77,011)	446,828
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	—	—	—	—	128,256	—	128,256
Foreign currency translation adjustments	—	—	—	—	—	10,517	10,517
Balance at September 30, 2017	30,243	302	1,195,431	(2,301,097)	1,598,395	(66,494)	426,537
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	—	—	—	—	142,415	—	142,415
Foreign currency translation adjustments	—	—	—	—	—	(9,913)	(9,913)
Balance at September 30, 2018	29,015	\$ 290	\$ 1,211,051	\$ (2,612,007)	\$ 1,740,810	\$ (76,407)	\$ 263,737

See accompanying notes.

FAIR ISAAC CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended September 30,		
	2018	2017	2016
	(In thousands)		
Cash flows from operating activities:			
Net income	\$ 142,415	\$ 128,256	\$ 109,448
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	30,182	36,214	31,633
Share-based compensation	74,814	61,222	55,509
Deferred income taxes	25,729	(6,049)	(26,007)
Tax effect from share-based payment arrangements	—	—	24,184
Provision of doubtful accounts	623	1,640	2,011
Net gain on marketable securities	(1,449)	—	—
Gain on sale of cost-method investment	(10,000)	—	—
Net loss on sales of property and equipment	231	14	6
Changes in operating assets and liabilities:			
Accounts receivable	(42,403)	(1,265)	(18,225)
Prepaid expenses and other assets	(8,504)	(7,115)	12,848
Accounts payable	843	(2,027)	564
Accrued compensation and employee benefits	7,352	6,464	17,079
Other liabilities	6,416	(683)	(4,282)
Deferred revenue	(3,197)	8,973	5,500
Net cash provided by operating activities	<u>223,052</u>	<u>225,644</u>	<u>210,268</u>
Cash flows from investing activities:			
Purchases of property and equipment	(31,299)	(19,828)	(21,969)
Proceeds from sales of marketable securities	3,230	—	—
Purchases of marketable securities	(6,050)	—	—
Proceeds from sale of cost-method investment	20,000	—	—
Cash paid for acquisitions, net of cash acquired	—	—	(5,683)
Distribution from (purchase of) cost-method investment	—	(777)	37
Net cash used in investing activities	<u>(14,119)</u>	<u>(20,605)</u>	<u>(27,615)</u>
Cash flows from financing activities:			
Proceeds from revolving line of credit	427,000	190,000	122,000
Payments on revolving line of credit	(531,000)	(84,000)	(99,000)
Proceeds from issuance of senior notes	400,000	—	—
Payments on senior notes	(131,000)	(72,000)	(60,000)
Payments on debt issuance costs	(7,849)	—	—
Proceeds from issuance of treasury stock under employee stock plans	11,023	14,474	17,828
Taxes paid related to net share settlement of equity awards	(44,205)	(40,232)	(29,955)
Dividends paid	—	(1,238)	(2,489)
Repurchases of common stock	(342,596)	(187,629)	(138,399)
Net cash used in financing activities	<u>(218,627)</u>	<u>(180,625)</u>	<u>(190,015)</u>
Effect of exchange rate changes on cash			
Increase (decrease) in cash and cash equivalents	(5,901)	5,278	(2,832)
Cash and cash equivalents, beginning of year	105,618	75,926	86,120
Cash and cash equivalents, end of year	<u>\$ 90,023</u>	<u>\$ 105,618</u>	<u>\$ 75,926</u>
Supplemental disclosures of cash flow information:			
Cash paid for income taxes, net of refunds of \$3,079, \$3,757 and \$11,363 during the years ended September 30, 2018, 2017 and 2016, respectively	\$ 13,398	\$ 31,315	\$ 10,855
Cash paid for interest	\$ 26,106	\$ 26,083	\$ 26,884
Supplemental disclosures of non-cash investing and financing activities:			
Unsettled repurchases of common stock	\$ —	\$ 5,661	\$ —
Purchase of property and equipment included in accounts payable	\$ 1,913	\$ 1,751	\$ 3,287

See accompanying notes.

FAIR ISAAC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years Ended September 30, 2018, 2017 and 2016

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

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 10.

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 during each of the three years ended September 30, 2018. Investments with remaining maturities over one year are classified as long-term investments.

Our investments in equity securities of companies over which we do not have significant influence are accounted for under the cost method. The investment is originally recorded at cost and adjusted for additional contributions or distributions. Management periodically reviews cost-method investments for instances where fair value is less than the carrying amount and the decline in value is determined to be other than temporary. If the decline in value is judged to be other than temporary, the carrying amount of the security is written down to fair value and the resulting loss is charged to operations. We currently do not have investments in which we own 20% to 50% and exercise significant influence over operating and financial policies, therefore we do not account for any investment under the equity method.

FAIR ISAAC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years Ended September 30, 2018, 2017 and 2016

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. 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 to 6 years
Office furniture and equipment	3 to 7 years
Leasehold improvements	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 \$22.6 million, \$23.0 million and \$17.7 million during fiscal 2018, 2017 and 2016, 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, 2018, 2017 and 2016

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 fiscal 2018 and 2016, 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, 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 2018, 2017 or 2016.

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

	Estimated Useful Life
Completed technology	4 to 10 years
Customer contracts and relationships	5 to 15 years
Trade names	3 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 2018, 2017 and 2016.

Revenue Recognition

Software Licenses

Software license fee revenue is recognized when persuasive evidence of an arrangement exists, software is made available to our customers, the fee is fixed or determinable and collection is probable. The determination of whether fees are fixed or determinable and collection is probable involves the use of judgment. If at the outset of an arrangement we determine that the arrangement fee is not fixed or determinable, revenue is deferred until the arrangement fee becomes fixed or determinable, assuming all other revenue recognition criteria have been met. If at the outset of an arrangement we determine that collectability is not probable, revenue is deferred until the earlier of when collectability becomes probable or the receipt of payment. If there is uncertainty as to the customer's acceptance of our deliverables, revenue is not recognized until the earlier of receipt of customer acceptance, expiration of the acceptance period, or when we can demonstrate we meet the acceptance criteria. We evaluate contract terms and customer information to ensure that these criteria are met prior to our recognition of license fee revenue.

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We use the residual method to recognize revenue when a software arrangement includes one or more elements to be delivered at a future date provided the following criteria are met: (i) vendor-specific objective evidence (“VSOE”) of the fair value does not exist for one or more of the delivered items but exists for all undelivered elements, (ii) all other applicable revenue recognition criteria are met and (iii) the fair value of all of the undelivered elements is less than the arrangement fee. VSOE of fair value is based on the normal pricing practices for those products and services when sold separately by us and customer renewal rates for post-contract customer support services. Under the residual method, the fair value of the undelivered elements is deferred and the remaining portion of the arrangement fee is recognized as revenue. If evidence of the fair value of one or more undelivered elements does not exist, the revenue is deferred and recognized when delivery of those elements occurs or when fair value can be established. Changes to the elements in a software arrangement, the ability to identify VSOE for those elements, the fair value of the respective elements, and change to a product’s estimated life cycle could materially impact the amount of earned and unearned revenue.

Revenues from post-contract customer support services, such as software maintenance, are recognized on a straight-line basis over the term of the support period. The majority of our software maintenance agreements provide technical support as well as unspecified software product upgrades and releases when and if made available by us during the term of the support period.

Transactional-Based Revenues

Transactional-based revenue is recognized when persuasive evidence of an arrangement exists, fees are fixed or determinable, and collection is probable. Revenues from our credit scoring, data processing, data management and SaaS subscription services are recognized as these services are performed. Revenues from transactional or unit-based license fees under software license arrangements, credit scoring, data processing, data management and SaaS subscription services agreements are recognized based on minimum contractual amounts or on system usage that exceeds minimum contractual amounts. Certain of our transactional-based revenues are based on transaction or active account volumes as reported by our clients. In instances where volumes are reported to us in arrears, we estimate volumes based on preliminary customer transaction information or average actual reported volumes for an immediate trailing period. Differences between our estimates and actual final volumes reported are recorded in the period in which actual volumes are reported. We have not experienced material variances between our estimates and actual reported volumes in the past and anticipate that we will be able to continue to make reasonable estimates in the future. If for some reason we were unable to reasonably estimate transaction volumes in the future, revenue may be deferred until actual customer data is received, and this could have a material impact on our consolidated results of operations.

Consulting Services

We provide consulting, training, model development and software integration services under both hourly-based time and materials and fixed-priced contracts. Revenues from these services are generally recognized as the services are performed. For fixed-price service contracts, we use a proportionate performance model with hours as the input method of attribution to determine progress towards completion, with consideration also given to output measures, such as contract milestones, when applicable. In such instances, management is required to estimate the total estimated hours of the project. Adjustments to estimates are made in the period in which the facts requiring such revisions become known and, accordingly, recognized revenues and profits are subject to revisions as the contract progresses to completion. Estimated losses, if any, are recorded in the period in which current estimates of total contract revenue and contract costs indicate a loss. If substantive uncertainty related to customer acceptance of services exists, we defer the associated revenue until the contract is completed. We have not experienced material variances between our estimates and actual hours in the past and anticipate that we will be able to continue to make reasonable estimates in the future. If for some reason we are unable to accurately estimate the input measures, revenue would be deferred until the contract is complete, and this could have a material impact on our consolidated results of operations.

Services that are sold in connection with software license arrangements generally qualify for separate accounting from the license element because they do not involve significant production, modification or customization of our products and are not otherwise considered to be essential to the functionality of our software. In arrangements where the professional services do not qualify for separate accounting from the license element, the combined software license and professional services revenue are recognized based on contract accounting using either the percentage-of-completion or completed-contract method.

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Multiple-Deliverable Arrangements including Non-Software

When we enter into a multiple-deliverable arrangement that includes non-software, each deliverable is accounted for as a separate unit of accounting if the following criteria are met: (i) the delivered item or items have value to the customer on a standalone basis and (ii) for an arrangement that includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in our control. We consider a deliverable to have standalone value if we sell this item separately or if the item is sold by another vendor or could be resold by the customer; for example, we conclude professional services offered along with our SaaS subscription services typically have standalone value using this criteria. Further, our revenue arrangements generally do not include a general right of return relative to delivered products. Revenue for multiple element arrangements is allocated to the software and non-software deliverables based on a relative selling price. We use VSOE in our allocation of arrangement consideration when it is available. We define VSOE as a median price of recent standalone transactions that are priced within a narrow range, as defined by us. If a product or service is seldom sold separately, it is unlikely that we can determine VSOE. In circumstances when VSOE does not exist, we then assess whether we can obtain third-party evidence (“TPE”) of the selling price. It may be difficult for us to obtain sufficient information on competitor pricing to substantiate TPE and therefore we may not always be able to use TPE. When we are unable to establish selling price using VSOE or TPE, we use estimated selling price (“ESP”) in our allocation of arrangement consideration. The objective of ESP is to determine the price at which we would transact if the product or service were sold by us on a standalone basis. Our determination of ESP involves weighting several factors based on the specific facts and circumstances of each arrangement. The factors include, but are not limited to, geographies, market conditions, gross margin objectives, pricing practices and controls, customer segment pricing strategies and the product lifecycle.

If a deliverable does not have standalone value because the aforementioned criteria are not met, we combine it with the other applicable undelivered item(s) within the arrangement and account for the multiple deliverables as one combined unit of accounting. For example, for hosting arrangements requiring a highly specialized and unique set of initial implementation and setup services prior to the commencement of hosting services, we typically conclude that these implementation or setup services do not have value to the customer on a stand-alone basis; therefore, we combine them with the hosting services as a combined unit of accounting. Revenue is recognized upon commencement of our hosting services over the expected life of the customer relationship.

Gross vs. Net Revenue Reporting

We apply accounting guidance to determine whether we report revenue for certain transactions based upon the gross amount billed to the customer, or the net amount retained by us. In accordance with the guidance we record revenue on a gross basis for sales in which we have acted as the principal and on a net basis for those sales in which we have in substance acted as an agent or broker in the transaction.

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.

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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.

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.

The Tax Cuts and Jobs Act of 2017 (the "Tax Act"), as signed by the U.S. President on December 22, 2017, significantly revises U.S. tax law. The legislation reduces the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were indefinitely reinvested and creates new taxes on certain foreign sourced earnings. The Tax Act adds many new provisions including changes to bonus depreciation, the deduction for executive compensation and interest expense, a tax on global intangible low taxed income ("GILTI"), the base erosion anti-abuse tax, a deduction for foreign derived intangible income, and the repeal of the deduction for domestic production activities. Some of these provisions, such as tax on GILTI, the repeal of the deduction for domestic production activities, and executive compensation, may not apply to the Company with full effect until future years. The Company is assessing the impact of the provisions of the Tax Act that do not apply until later years. The items that impact the Company for fiscal 2018 include, but are not limited to, 1) reduction of the U.S. federal corporate income tax rate; (2) a one-time transition tax on certain un-repatriated earnings of foreign subsidiaries; and (3) repeal of the performance-based compensation exception to the \$1 million deduction limitation.

The SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") in December 2017, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under FASB Accounting Standards Codification ("ASC") 740, "Accounting for Income Taxes" ("ASC 740"). In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company's accounting for certain income tax effects of the Tax Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

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The Tax Act was effective in the first quarter of fiscal 2018. As of September 30, 2018, we have not completed our accounting for the estimated tax effects for the Transition Tax nor the excessive employee remuneration. During fiscal 2018, we recorded a provisional net charge of \$9.6 million related to the Tax Act based on reasonable estimates for those tax effects and \$14.0 million for the re-measurement of the deferred tax assets and liabilities, in which accounting is now complete. Due to the timing of the enactment and the complexity in applying the provisions of the Tax Act, the provisional net charge is subject to revisions as we continue to complete our analysis, collect and prepare necessary data, and interpret any additional guidance issued by the U.S. Treasury Department, Internal Revenue Service (“IRS”), FASB, and other standard-setting and regulatory bodies. Adjustments may materially impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. Our accounting for the estimated tax effects of the Tax Act will be completed during the measurement period, which is not expected to extend beyond one year from the enactment date.

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.

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 gains (losses) of \$0.4 million, \$(1.1) million and \$0.2 million during fiscal 2018, 2017 and 2016, respectively.

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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 14 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 \$4.1 million, \$3.1 million and \$3.6 million in fiscal 2018, 2017 and 2016, respectively.

New Accounting Pronouncements

Recent Accounting Pronouncements Not Yet Adopted

In February 2018, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) No. 2018-02, “*Income Statement — Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*” (“ASU 2018-02”). ASU 2018-02 allows reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act and requires certain disclosures about stranded tax effects. The guidance is effective for fiscal years and interim periods beginning after December 15, 2018, which means it will be effective for our fiscal year beginning October 1, 2019. ASU 2018-02 should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Act is recognized. We do not believe that adoption of ASU 2018-02 will have a significant impact on our consolidated financial statements.

In October 2016, the FASB issued ASU No. 2016-16, “*Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*” (“ASU 2016-16”). ASU 2016-16 requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. The guidance is effective for fiscal years and interim periods beginning after December 15, 2017, which means it will be effective for our fiscal year beginning October 1, 2018. ASU 2016-16 should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings at the beginning of the period of adoption. Early adoption is permitted as of the beginning of an annual reporting period for which financial statements (interim or annual) have not been issued. We do not believe that adoption of ASU 2016-16 will have a significant impact on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, “*Leases (Topic 842)*” (“ASU 2016-02”), which requires lessees to put most leases on their balance sheets but recognize the expenses on their income statements in a manner similar to current practice. ASU 2016-02 states that a lessee would recognize a lease liability for the obligation to make lease payments and a right-to-use asset for the right to use the underlying asset for the lease term. ASU 2016-02 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.

In May 2014, the FASB issued ASU No. 2014-09, “*Revenue from Contracts with Customers (Topic 606)*” (“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 method), or the retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (modified retrospective method). We have adopted the standard using the full retrospective method.

The standard is effective for us beginning October 1, 2018. In preparation for adoption of the new standard, we have implemented internal controls and key system functionality to enable the preparation of financial information and have reached conclusions on key accounting assessments related to the standard, including our assessment of the impact of accounting for costs incurred to obtain a contract.

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The most significant impact of the standard relates to the timing of revenue recognition for term licenses and transactional revenue on guaranteed minimum fees related to our on-premises software products. Under the new standard, we expect to recognize revenue when control of the license transfers 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 current standard. In addition, revenue attributable to a software license renewal will be recognized at the beginning of the applicable renewal period, rather than at the signing of the renewal agreement as required under the current standard. Finally, 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 expect to present the unconditional rights as receivables regardless of whether cash has been received from customers.

In addition, Accounting Standards Codification Subtopic 340-40, “*Other Assets and Deferred Costs - Contracts with Customers*” (“ASC 340”), requires us to recognize an asset for the incremental costs of obtaining a contract with a customer if our sales incentive programs meet requirements for capitalization. Previously we recorded these incremental costs of obtaining a contract, primarily commission expense, when we booked a sales transaction, whereas under ASC 340, we record an asset for the incremental cost to obtain a contract and recognize the cost over the expected revenue recognition period.

We estimate the adoption of the standard will result in a revenue reduction of approximately \$32.3 million and an increase of approximately \$2.8 million during our fiscal years 2018 and 2017, respectively. This is primarily due to change in timing of recognition of license revenue — when control of license transfers versus when fees became due and payable, and only at the beginning of the renewal period when applicable — from arrangements entered into during fiscal years 2018 and 2017, as well as arrangements entered into prior to fiscal 2017. In addition, while we continue to evaluate other impacts Topic 606 will have on our consolidated financial statements, including those related to our commission costs and receivables accounts as mentioned above, we do not expect the impact will be material to our consolidated financial statements.

In future periods, the new standard will require us to disclose additional information in the notes to our consolidated financial statements, including disaggregation of our revenue, remaining performance obligations, and other quantitative and qualitative information about our contracts with customers.

2. Business Combinations

There were no acquisitions incurred during fiscal 2018 and 2017.

In fiscal 2016, we acquired 100% of the equity of QuadMetrics, Inc. for \$5.7 million in cash. We recorded \$2.0 million of intangible assets, which are being amortized using the straight-line method over a weighted average useful life of approximately 4.0 years. We allocated \$3.9 million of goodwill to our Applications segment that was not deductible for tax purposes.

3. Cash, Cash Equivalents and Marketable Securities

The following is a summary of cash, cash equivalents and marketable securities at September 30, 2018 and 2017:

	September 30, 2018		September 30, 2017	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
	(In thousands)			
Cash and Cash Equivalents:				
Cash	\$ 71,610	\$ 71,610	\$ 90,323	\$ 90,323
Money market funds	13,813	13,813	6,471	6,471
Bank time deposits	4,600	4,600	8,824	8,824
Total	\$ 90,023	\$ 90,023	\$ 105,618	\$ 105,618
Long-term Marketable Securities:				
Marketable securities	\$ 14,313	\$ 18,059	\$ 10,788	\$ 13,791

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.

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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 equity securities.
- 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, 2018 and 2017.
- 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, 2018 and 2017.

The following table represents financial assets that we measured at fair value on a recurring basis at September 30, 2018 and 2017:

<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>
<u>September 30, 2017</u>	<u>Active Markets for Identical Instruments (Level 1)</u>	<u>Fair Value as of September 30, 2017</u>
(In thousands)		
Assets:		
Cash equivalents (1)	\$ 15,295	\$ 15,295
Marketable securities (2)	13,791	13,791
Total	<u>\$ 29,086</u>	<u>\$ 29,086</u>

(1) Included in cash and cash equivalents on our balance sheet at September 30, 2018 and 2017. Not included in this table are cash deposits of \$71.6 million and \$90.3 million at September 30, 2018 and 2017, 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, 2018 and 2017.

Where applicable, we use quoted prices in active markets for identical assets or liabilities to determine fair value. This pricing applies to our Level 1 investments. To the extent quoted prices in active markets for assets or liabilities are not available, the valuation techniques used to measure the fair values of our financial assets incorporate market inputs, which include reported trades, broker/dealer quotes, benchmark yields, issuer spreads, benchmark securities and other inputs derived from or corroborated by observable market data. This methodology would apply to our Level 2 investments. We have not changed our valuation techniques in measuring the fair value of any financial assets and liabilities during the period.

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For the fair value of our derivative instruments and senior notes, see Note 5 and Note 10, respectively.

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, 2018 and 2017:

	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	—

	September 30, 2017			
	Contract Amount		Fair Value	
	Foreign Currency	US\$	US\$	
(In thousands)				
Sell foreign currency:				
Euro (EUR)	EUR	5,050	\$ 5,968	—
Buy foreign currency:				
British pound (GBP)	GBP	9,341	\$ 12,500	—

The foreign currency forward contracts were entered into on September 30 of each fiscal year; therefore, their fair value was \$0 at September 30, 2018 and 2017.

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, 2018, 2017 and 2016:

	Year Ended September 30,		
	2018	2017	2016
	(In thousands)		
Gain (loss) on foreign currency forward contracts	\$ (476)	\$ 210	\$ (2,911)

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6. Accounts Receivable, Net

Accounts receivable, net at September 30, 2018 and 2017 consisted of the following:

	September 30,	
	2018	2017
(In thousands)		
Billed	\$ 157,333	\$ 126,887
Unbilled (1)	54,971	44,640
	<u>212,304</u>	<u>171,527</u>
Less: allowance for doubtful accounts	(3,439)	(2,941)
Accounts receivable, net	<u>\$ 208,865</u>	<u>\$ 168,586</u>

(1) Represents revenue recorded in excess of amounts billable pursuant to contract provisions and generally become billable at contractually specified dates or upon the attainment of milestones. Unbilled amounts are expected to be realized within one year.

Activity in the allowance for doubtful accounts was as follows:

	Year Ended September 30,	
	2018	2017
(In thousands)		
Balance, beginning of year	\$ 2,941	\$ 2,192
Add: expense	623	1,640
Less: write-offs (net of recoveries)	(125)	(891)
Balance, end of year	<u>\$ 3,439</u>	<u>\$ 2,941</u>

7. Goodwill and Intangible Assets

Intangible assets that are subject to amortization consisted of the following at September 30, 2018 and 2017:

	September 30, 2018				September 30, 2017			
	Gross Carrying Amount	Accumulated Amortization	Net	Average Life	Gross Carrying Amount	Accumulated Amortization	Net	Average Life
(In thousands, except average life)								
Completed technology	\$ 82,295	\$ (77,400)	\$ 4,895	5	\$ 84,955	\$ (77,682)	\$ 7,273	5
Customer contracts and relationships	28,692	(19,051)	9,641	8	28,947	(15,091)	13,856	8
Trade names	—	—	—	0	603	(547)	56	3
	<u>\$ 110,987</u>	<u>\$ (96,451)</u>	<u>\$ 14,536</u>	6	<u>\$ 114,505</u>	<u>\$ (93,320)</u>	<u>\$ 21,185</u>	6

Amortization expense associated with our intangible assets, which has been reflected as a separate operating expense caption within the accompanying consolidated statements of income and comprehensive income, consisted of the following during fiscal 2018, 2017 and 2016:

	Year Ended September 30,		
	2018	2017	2016
(In thousands)			
Cost of revenues	\$ 2,380	\$ 6,511	\$ 7,300
Selling, general and administrative expenses	4,214	6,198	6,682
Total	<u>\$ 6,594</u>	<u>\$ 12,709</u>	<u>\$ 13,982</u>

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In the table above, cost of revenues reflects our amortization of completed technology, and selling, general and administrative expenses reflect our amortization of other intangible assets.

Estimated future intangible asset amortization expense associated with intangible assets existing at September 30, 2018, was as follows (in thousands):

<u>Year Ending September 30,</u>	
2019	\$ 6,001
2020	3,647
2021	2,408
2022	2,263
2023	217
Thereafter	—
Total	\$ 14,536

The following table summarizes changes to goodwill during fiscal 2018 and 2017, 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, 2016	\$ 582,720	\$ 146,648	\$ 69,047	\$ 798,415
Foreign currency translation adjustment	5,568	—	431	5,999
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

8. Composition of Certain Financial Statement Captions

The following table presents the composition of property and equipment at September 30, 2018 and 2017:

	September 30,	
	2018	2017
(In thousands)		
Property and equipment:		
Data processing equipment and software	\$ 104,789	\$ 88,830
Office furniture and equipment	22,207	20,763
Leasehold improvements	29,158	25,767
Less: accumulated depreciation and amortization	(107,317)	(94,657)
Total	\$ 48,837	\$ 40,703

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9. 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, 2018, we had \$257.0 million in borrowings outstanding at a weighted average interest rate of 3.555%, of which \$50.0 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, 2018.

10. Senior Notes

On May 7, 2008, we issued \$275 million of senior notes in a private placement to a group of institutional investors (the “2008 Senior Notes”). The 2008 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>
A	\$ 41.0	6.37%	May 7, 2013
B	\$ 40.0	6.37%	May 7, 2015
C	\$ 63.0	6.71%	May 7, 2015
D	\$ 131.0	7.18%	May 7, 2018

On May 7, 2018, the aggregate principal amount of the fourth series of 2008 Senior Notes was repaid at maturity. At September 30, 2018, the 2008 Senior Notes are no longer outstanding.

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. As of September 30, 2018, we were in compliance with all financial covenants.

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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 2008 Senior Notes and the 2010 Senior Notes, the “Senior Notes”). We have used the net proceeds to repay all the outstanding aggregate principal amount of the 2008 Senior Notes at maturity, as well as a portion of the outstanding balance on our revolving credit facility. 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 2008 and 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, 2018 and 2017:

	September 30, 2018		September 30, 2017	
	Carrying Amounts (1)	Fair Value	Carrying Amounts (1)	Fair Value
	(In thousands)			
The 2008 Senior Notes	\$ —	\$ —	\$ 131,000	\$ 134,250
The 2010 Senior Notes	113,000	114,413	113,000	119,106
The 2018 Senior Notes	400,000	404,000	—	—
Total	\$ 513,000	\$ 518,413	\$ 244,000	\$ 253,356

(1) Amounts exclusive of net debt issuance cost of \$6.1 million and \$0.2 million at September 30, 2018 and 2017, respectively.

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.

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

<u>Year Ending September 30,</u>	
2019	\$ 28,000
2020	85,000
2021	—
2022	—
2023	—
Thereafter	400,000
Total	\$ 513,000

11. 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 \$8.8 million, \$8.4 million and \$7.3 million during fiscal 2018, 2017 and 2016, 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 \$48.4 million, \$41.6 million and \$40.0 million during fiscal 2018, 2017 and 2016, respectively.

12. Restructuring Expenses

There was no restructuring expense incurred during fiscal 2018.

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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 was no restructuring expense incurred during fiscal 2016.

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

	Accrual at September 30, 2016	Expense Additions	Cash Payments	Accrual at September 30, 2017
(In thousands)				
Facilities charges	\$ 9,233	\$ 1,729	\$ (2,842)	\$ 8,120
Employee separation	—	2,742	(2,557)	185
	9,233	\$ 4,471	\$ (5,399)	8,305
Less: current portion	(4,266)			(3,077)
Non-current	\$ 4,967			\$ 5,228

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

13. Income Taxes

Recent Tax Legislation:

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, 2018, including, but not limited to: (1) reducing the U.S. federal corporate income tax rate; (2) requiring a one-time transition tax on certain un-repatriated earnings of foreign subsidiaries; and (3) repealing the performance-based compensation exception to the \$1 million deduction limitation.

The Tax Act reduces the federal corporate tax rate from 35% to 21% effective January 1, 2018. In accordance with Section 15 of the Internal Revenue Code, we have utilized a blended rate of 24.5% for our fiscal 2018 tax year by applying a prorated percentage of the number of days prior to and subsequent to the January 1, 2018 effective date. We recorded charges for the re-measurement of the deferred tax assets and liabilities of \$14.0 million to our income tax expense for the fiscal year ended September 30, 2018.

The Tax Act has expanded the scope of previously enacted rules for certain covered employees that receive remuneration in excess of \$1 million. As these new Section 162(m) rules impact the future deductibility of the related performance-based compensation, we recorded a provisional charge of \$6.0 million.

The Deemed Repatriation Transition Tax (the "Transition Tax") is a tax on previously untaxed accumulated earnings and profits ("E&P") of deferred foreign income. To determine the amount of the Transition Tax, we must determine, in addition to other factors, the amount of post-1986 E&P of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. We are able to make a reasonable estimate and recorded a provisional Transition Tax obligation of \$3.6 million.

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The SEC staff issued Staff Accounting Bulletin No. 118 (“SAB 118”) in December 2017, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under FASB Accounting Standards Codification (“ASC”) 740, “Accounting for Income Taxes” (“ASC 740”). In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company’s accounting for certain income tax effects of the Tax Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

The Tax Act was effective in the first quarter of fiscal 2018. As of September 30, 2018, we have not completed our accounting for the estimated tax effects for the Transition Tax nor the excessive employee remuneration. During fiscal 2018, we recorded a provisional net charge of \$9.6 million related to the Tax Act based on reasonable estimates for those tax effects and \$14.0 million for the re-measurement of the deferred tax assets and liabilities, in which accounting is now complete. Due to the timing of the enactment and the complexity in applying the provisions of the Tax Act, the provisional net charge is subject to revisions as we continue to complete our analysis, collect and prepare necessary data, and interpret any additional guidance issued by the U.S. Treasury Department, Internal Revenue Service (“IRS”), FASB, and other standard-setting and regulatory bodies. Adjustments may materially impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. Our accounting for the estimated tax effects of the Tax Act will be completed during the measurement period, which is not expected to extend beyond one year from the enactment date.

The Tax Act includes a provision to tax global intangible low-taxed income (“GILTI”) of foreign subsidiaries, a foreign derived intangible income (“FDII”), and a base erosion anti-abuse tax (“BEAT”) measure that taxes certain payments between a U.S. corporation and its foreign subsidiaries. The GILTI, FDII, and BEAT provisions of the Tax Act will be effective for us beginning October 1, 2018.

The provision for income taxes was as follows during fiscal 2018, 2017 and 2016:

	Year ended September 30,		
	2018	2017	2016
	(In thousands)		
Current:			
Federal	\$ 8,071	\$ 19,576	\$ 50,631
State	2,236	1,055	2,900
Foreign	9,559	8,486	7,597
	<u>19,866</u>	<u>29,117</u>	<u>61,128</u>
Deferred:			
Federal	28,013	(5,027)	(23,592)
State	132	(296)	(225)
Foreign	(2,416)	(726)	(2,190)
	<u>25,729</u>	<u>(6,049)</u>	<u>(26,007)</u>
Total provision	<u>\$ 45,595</u>	<u>\$ 23,068</u>	<u>\$ 35,121</u>

The foreign provision was based on foreign pre-tax earnings of \$13.0 million, \$27.8 million and \$33.0 million in fiscal 2018, 2017 and 2016, respectively. Current foreign tax expense related to foreign tax withholdings was \$6.0 million, \$4.6 million and \$6.5 million in fiscal 2018, 2017 and 2016, 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, 2018 and 2017 were as follows:

	September 30,	
	2018	2017
	(In thousands)	
Deferred tax assets:		
Loss and credit carryforwards	\$ 24,400	\$ 34,383
Compensation benefits	30,388	45,823
Property and equipment	—	3,476
Other assets	9,674	12,239
	64,462	95,921
Less valuation allowance	(19,564)	(17,657)
Total deferred tax assets	44,898	78,264
Deferred tax liabilities:		
Intangible assets	(15,921)	(25,346)
Property and equipment	(2,616)	—
Other liabilities	(6,229)	(5,714)
Total deferred tax liabilities	(24,766)	(31,060)
Deferred tax assets, net	\$ 20,132	\$ 47,204

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, 2018.

As of September 30, 2018, we had available U.S. federal, state and foreign net operating loss (“NOL”) carryforwards of approximately \$13.7 million, \$0.2 million, and \$41.9 million, respectively. The U.S. NOLs were acquired in connection with our acquisitions of Braun in fiscal 2005, Adeptra 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 \$41.9 million of foreign NOL includes \$25.1 million related to China. Due to a limited ability to utilize the China NOLs, a full valuation allowance has been recorded on the China 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 2016 and 2017 we generated excess foreign tax credits associated with dividends received from two of our foreign subsidiaries. In fiscal 2018 the excess foreign tax credits generated in prior years were completely utilized. We also have available excess California state research credit of approximately \$10.5 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 \$10.5 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 (24.5% in fiscal 2018, and 35% in fiscal 2017 and 2016) to income before provision for income taxes for fiscal 2018, 2017 and 2016 is shown below:

	Year Ended September 30,		
	2018	2017	2016
	(In thousands)		
Income tax provision at U.S. federal statutory rate	\$ 46,119	\$ 52,963	\$ 50,599
State income taxes, net of U.S. federal benefit	3,429	2,193	2,244
Foreign tax rate differential	(42)	(1,761)	(4,661)
Intercompany interest	—	(477)	(1,223)
Research credits	(3,486)	(2,572)	(4,398)
Domestic production deduction	(3,041)	(3,075)	(3,726)
Amended returns/audit settlements/statute expirations	(2,349)	(1,296)	(248)
Foreign	4,040	744	(1,702)
Valuation allowance	1,907	2,512	1,262
Foreign tax credit	1,320	(1,342)	(3,286)
Excess tax benefits relating to stock-based compensation	(22,253)	(24,746)	—
Tax effect of the Tax Act	23,579	—	—
Other	(3,628)	(75)	260
Recorded income tax provision	<u>\$ 45,595</u>	<u>\$ 23,068</u>	<u>\$ 35,121</u>

The increase in our income tax provision in fiscal 2018 compared to fiscal 2017 is primarily due to recording the impact related to the enactment of the Tax Act in fiscal 2018. This includes re-measurement to our deferred tax assets and liabilities for the tax rate changes, the one-time Transition Tax, and a provisional charge related to the loss of deductibility of performance-based compensation for certain employees.

The decrease in our income tax provision in fiscal 2017 compared to fiscal 2016 was due primarily to the adoption of ASU 2016-09 on October 1, 2016. We no longer record excess tax benefits as an increase to additional paid-in capital, but instead record such excess tax benefits on a prospective basis as a reduction of income tax expense.

Prior to the enactment of the Tax Act we had not made a provision for U.S. income or additional foreign withholding taxes on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries as we intended to reinvest the earnings of our non-U.S. subsidiaries in those operations indefinitely, except where we were able to repatriate these earnings to the U.S. without material incremental tax provision. As of September 30, 2018, we have approximately \$79.7 million of unremitted earnings of non-U.S. subsidiaries, of which \$57.9 million was included in our current year provision for income taxes due to the one-time Transition Tax on the deemed repatriation of deferred foreign income under the Tax Act. 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. While the Transition Tax resulted in the reduction of the excess of the amount for financial reporting over the tax basis in our foreign subsidiaries such that a repatriation may not result in additional U.S. income tax, an actual repatriation from our non-US subsidiaries could still be subject to additional foreign withholding taxes and U.S. state taxes.

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 2014. We are currently under audit by Illinois for fiscal 2014 and 2015, Minnesota for fiscal 2013, 2014, 2015 and 2016 and California for fiscal 2016 and 2017. 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,		
	2018	2017	2016
	(In thousands)		
Gross unrecognized tax benefits at beginning of year	\$ 6,480	\$ 6,799	\$ 4,634
Gross increases for tax positions in prior years	404	57	1,004
Gross decreases for tax positions in prior years	—	(19)	(117)
Gross increases based on tax positions related to the current year	1,625	1,291	1,310
Decreases for settlements and payments	—	(151)	(32)
Decreases due to statute expiration	(2,396)	(1,497)	—
Gross unrecognized tax benefits at end of year	<u>\$ 6,113</u>	<u>\$ 6,480</u>	<u>\$ 6,799</u>

We had \$6.1 million of total unrecognized tax benefits as of September 30, 2018, including \$5.8 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, 2018, we have accrued interest of \$0.3 million related to the unrecognized tax benefits.

14. 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, 2018, there were 4,202,040 shares available for issuance under the 2012 Plan.

Description of Employee Stock Purchase Plan

Under our 1999 Employee Stock Purchase Plan (the “1999 Purchase Plan”), we are authorized to issue up to 5,062,500 shares of common stock to eligible employees. Employees may have up to 10% of their base salary withheld through payroll deductions to purchase FICO common stock during semi-annual offering periods. The purchase price of the stock is 85% of the fair market value on the exercise date (the last day of each offering period). Offering period means approximately six-month periods commencing (a) on the first trading day on or after January 1 and terminating on the last trading day in the following June, and (b) on the first trading day on or after July 1 and terminating on the last trading day in the following December. The 1999 Purchase Plan was suspended effective January 1, 2009 and employees cannot contribute to the 1999 Purchase Plan until the suspension is repealed. At September 30, 2018, there were 2,707,966 shares available for issuance under the 1999 Purchase Plan.

We satisfy stock option exercises, vesting of restricted stock units and the 1999 Purchase Plan issuances from treasury shares.

Share-Based Compensation Expense and Related Income Tax Benefits

We recorded share-based compensation expense of \$74.8 million, \$61.2 million and \$55.5 million in fiscal years 2018, 2017 and 2016, respectively. The total tax benefit related to this share-based compensation expense was \$15.7 million, \$20.4 million and \$18.7 million in fiscal 2018, 2017 and 2016, respectively. As of September 30, 2018, there was \$105.1 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 2.33 years.

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In fiscal 2018 we received \$11.0 million in cash from stock option exercises, with the tax benefit realized for the tax deductions from these exercises of \$10.7 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 2018, 2017 and 2016:

	Year Ended September 30,		
	2018	2017	2016
Stock Options:			
Average expected term (years)	4.78	5.00	4.83
Expected volatility (range)	33.6 - 35.1 %	35.3 %	35.3 - 36.4 %
Weighted average volatility	34.6 %	35.3 %	36.0 %
Risk-free interest rate (range)	2.03 - 2.65 %	2.02 %	1.21 - 1.49 %
Average expected dividend yield	— %	0.07 %	0.09 %
Expected dividend yield (range)	— %	0.07 %	0.09 - 0.10 %

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 and 2016 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 2018:

	Shares	Weighted-average Exercise Price	Weighted- average Remaining Contractual Term	Aggregate Intrinsic Value
	(In thousands)		(In years)	(In thousands)
Outstanding at October 1, 2017	1,230	\$ 56.54		
Granted	29	167.27		
Exercised	(257)	42.85		
Forfeited	(6)	88.17		
Outstanding at September 30, 2018	996	\$ 63.13	2.51	\$ 164,716
Exercisable at September 30, 2018	847	\$ 59.10	2.31	\$ 143,529
Vested and expected to vest at September 30, 2018	993	\$ 62.97	2.50	\$ 164,500

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The weighted average fair value of options granted were \$56.61, \$43.80 and \$31.06 during fiscal 2018, 2017 and 2016, respectively. The aggregate intrinsic value of options outstanding at September 30, 2018 was calculated as the difference between the exercise price of the underlying options and the market price of our common stock for the 1.0 million outstanding shares, which had exercise prices lower than the \$228.55 market price of our common stock at September 30, 2018. The total intrinsic value of options exercised was \$41.4 million, \$27.0 million and \$41.3 million during fiscal 2018, 2017 and 2016, 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 2018:

	Shares	Weighted-average Grant-date Fair Value
	(In thousands)	
Outstanding at October 1, 2017	1,144	\$ 97.95
Granted	458	161.85
Released	(439)	88.21
Forfeited	(50)	115.57
Outstanding at September 30, 2018	1,113	\$ 127.34

The weighted average fair value of the RSUs granted were \$161.85, \$122.47 and \$94.77 during fiscal 2018, 2017 and 2016, respectively. The total intrinsic value of the RSUs that vested was \$70.7 million, \$58.7 million and \$49.8 million during fiscal 2018, 2017 and 2016, 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 2018:

	Shares	Weighted- average Grant-date Fair Value
	(In thousands)	
Outstanding at October 1, 2017	204	\$ 105.37
Granted	102	157.17
Released	(96)	98.15
Outstanding at September 30, 2018	210	\$ 133.76

The weighted average fair value of the PSUs granted were \$157.17, \$121.30 and \$91.74 during fiscal 2018, 2017 and 2016, respectively. The total intrinsic value of the PSUs that vested was \$15.1 million, \$16.6 million and \$14.0 million during fiscal 2018, 2017 and 2016, 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 2018, 2017 and 2016:

	Year Ended September 30,		
	2018	2017	2016
Expected volatility in FICO’s stock price	24.6 %	27.4 %	24.1 %
Expected volatility in Russell 3000 Index	12.7 %	13.6 %	12.8 %
Correlation between FICO and the Russell 3000 Index	63.1 %	59.8 %	60.2 %
Risk-free interest rate	1.92 %	1.40 %	1.25 %
Average expected dividend yield	— %	0.07 %	0.09 %

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 2016, 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 2018:

	Shares	Weighted- average Grant-date Fair Value
	(In thousands)	
Outstanding at October 1, 2017	131	\$ 123.82
Granted	102	151.78
Released	(119)	113.70
Outstanding at September 30, 2018	114	\$ 159.34

The weighted average fair value of the MSUs granted were \$151.78, \$108.09 and \$100.63 during fiscal 2018, 2017 and 2016, respectively. The total intrinsic value of the MSUs that vested was \$18.7 million, \$20.2 million and \$9.2 million during fiscal 2018, 2017 and 2016, respectively, determined as of the date of vesting.

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15. Earnings per Share

The following table presents reconciliations for the numerators and denominators of basic and diluted earnings per share (“EPS”) during fiscal 2018, 2017 and 2016:

	Year Ended September 30,		
	2018	2017	2016
	(In thousands, except per share data)		
Numerator for basic and diluted earnings per share — net income	\$ 142,415	\$ 128,256	\$ 109,448
Denominator — share:			
Basic weighted-average shares	29,711	30,862	31,129
Effect of dilutive securities	1,469	1,383	1,179
Diluted weighted-average shares	31,180	32,245	32,308
Earnings per share:			
Basic	\$ 4.79	\$ 4.16	\$ 3.52
Diluted	\$ 4.57	\$ 3.98	\$ 3.39

The computation of diluted EPS excludes options to purchase approximately 5,000, 8,000, and 9,000 shares of common stock for fiscal 2018, 2017 and 2016, 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.

16. 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, software-as-a-service applications through the FICO® Analytic Cloud and/or Amazon Web Services, Inc. (“AWS”), our primary cloud infrastructure provider.
- *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 new 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 and/or 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 2018, 2017 and 2016:

	Year Ended September 30, 2018				
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total
	(In thousands)				
Segment revenues:					
Transactional and maintenance	\$ 381,109	\$ 337,530	\$ 47,420	\$ —	\$ 766,059
Professional services	142,908	1,751	32,145	—	176,804
License	61,554	3,367	24,691	—	89,612
Total segment revenues	585,571	342,648	104,256	—	1,032,475
Segment operating expense	(420,995)	(63,477)	(134,903)	(125,255)	(744,630)
Segment operating income (loss)	\$ 164,576	\$ 279,171	\$ (30,647)	\$ (125,255)	\$ 287,845
Unallocated share-based compensation expense					(74,814)
Unallocated amortization expense					(6,594)
Operating income					206,437
Unallocated interest expense, net					(31,311)
Unallocated other income, net					12,884
Income before income taxes					\$ 188,010
Depreciation expense	\$ 15,651	\$ 555	\$ 5,471	\$ 956	\$ 22,633
Year Ended September 30, 2017					
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total
	(In thousands)				
Segment revenues:					
Transactional and maintenance	\$ 348,861	\$ 259,780	\$ 44,019	\$ —	\$ 652,660
Professional services	141,857	2,849	34,863	—	179,569
License	62,449	3,725	33,766	—	99,940
Total segment revenues	553,167	266,354	112,648	—	932,169
Segment operating expense	(393,667)	(54,436)	(123,466)	(104,998)	(676,567)
Segment operating income (loss)	\$ 159,500	\$ 211,918	\$ (10,818)	\$ (104,998)	255,602
Unallocated share-based compensation expense					(61,222)
Unallocated amortization expense					(12,709)
Unallocated restructuring and acquisition-related expenses					(4,471)
Operating income					177,200
Unallocated interest expense, net					(25,790)
Unallocated other expense, net					(86)
Income before income taxes					\$ 151,324
Depreciation expense	\$ 15,857	\$ 991	\$ 4,783	\$ 1,349	\$ 22,980

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	Year Ended September 30, 2016				
	Applications	Scores	Decision Management Software	Unallocated Corporate Expenses	Total
	(In thousands)				
Segment revenues:					
Transactional and maintenance	\$ 328,472	\$ 233,655	\$ 43,792	\$ —	\$ 605,919
Professional services	138,775	4,185	26,778	—	169,738
License	65,395	3,219	37,085	—	105,699
Total segment revenues	532,642	241,059	107,655	—	881,356
Segment operating expense	(364,371)	(55,975)	(111,315)	(110,612)	(642,273)
Segment operating income (loss)	\$ 168,271	\$ 185,084	\$ (3,660)	\$ (110,612)	239,083
Unallocated share-based compensation expense					(55,509)
Unallocated amortization expense					(13,982)
Operating income					169,592
Unallocated interest expense, net					(26,633)
Unallocated other income, net					1,610
Income before income taxes					\$ 144,569
Depreciation expense	\$ 11,852	\$ 814	\$ 3,657	\$ 1,328	\$ 17,651

Our revenues and percentage of revenues by reportable market segments were as follows for fiscal 2018, 2017 and 2016, the majority of which were derived from the sale of products and services within the banking (including consumer credit) industry:

	Year Ended September 30,					
	2018		2017		2016	
	(Dollars in thousands)					
Applications	\$ 585,571	57%	\$ 553,167	59%	\$ 532,642	61%
Scores	342,648	33%	266,354	29%	241,059	27%
Decision Management Software	104,256	10%	112,648	12%	107,655	12%
Total	\$ 1,032,475	100%	\$ 932,169	100%	\$ 881,356	100%

Within our Applications segment our fraud solutions accounted for 17%, 19% and 20% of total revenues in each of fiscal 2018, 2017 and 2016, respectively, our customer communication services accounted for 10%, 10% and 9% of total revenues in each of these periods, respectively; and our customer management solutions accounted for 8%, 8% and 9% of total revenues in each of these periods, respectively.

Our revenues and percentage of revenues on a geographical basis are summarized below for fiscal 2018, 2017 and 2016:

	Year Ended September 30,					
	2018		2017		2016	
	(Dollars in thousands)					
United States	\$ 679,425	66%	\$ 598,765	64%	\$ 567,443	64%
United Kingdom	77,053	7%	71,989	8%	86,485	10%
Other countries	275,997	27%	261,415	28%	227,428	26%
Total	\$ 1,032,475	100%	\$ 932,169	100%	\$ 881,356	100%

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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 2018, 2017 and 2016:

	Year Ended September 30,					
	2018		2017		2016	
	(Dollars in thousands)					
Experian	\$ 109,638	11%	\$ 80,347	9%	\$ 65,753	8%
TransUnion and Equifax	143,922	14%	104,475	11%	97,427	11%
Other customers	778,915	75%	747,347	80%	718,176	81%
Total	<u>\$ 1,032,475</u>	<u>100%</u>	<u>\$ 932,169</u>	<u>100%</u>	<u>\$ 881,356</u>	<u>100%</u>

At September 30, 2018 and 2017, 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, 2018 and 2017:

	September 30,			
	2018		2017	
	(Dollars in thousands)			
United States	\$ 39,593	81%	\$ 30,773	76%
United Kingdom	4,296	9%	4,893	12%
Other countries	4,948	10%	5,037	12%
Total	<u>\$ 48,837</u>	<u>100%</u>	<u>\$ 40,703</u>	<u>100%</u>

17. Commitments

Minimum future commitments under non-cancelable operating leases and other obligations were as follows at September 30, 2018:

Year Ending September 30,	Future Minimum Lease Commitments (In thousands)
2019	\$ 24,224
2020	15,694
2021	15,768
2022	14,151
2023	12,866
Thereafter	33,030
Total	<u>\$ 115,733</u>

Lease 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 \$19.8 million, \$18.6 million and \$17.6 million during fiscal 2018, 2017 and 2016, respectively.

Other Commitments

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.

We are also a party to a management agreement with 22 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.

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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.

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, 2018. 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, 2018	June 30, 2018	March 31, 2018	December 31, 2017
	(In thousands, except per share data)			
Revenues	\$ 279,791	\$ 259,505	\$ 257,858	\$ 235,321
Cost of revenues (1)	79,431	78,390	78,519	74,359
Gross profit	200,360	181,115	179,339	160,962
Net income	\$ 50,480	\$ 32,361	\$ 32,275	\$ 27,299
Earnings per share (2):				
Basic	\$ 1.74	\$ 1.09	\$ 1.08	\$ 0.91
Diluted	\$ 1.64	\$ 1.04	\$ 1.03	\$ 0.86
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

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	Quarter Ended			
	September 30, 2017	June 30, 2017	March 31, 2017	December 31, 2016
	(In thousands, except per share data)			
Revenues	\$ 253,205	\$ 230,986	\$ 228,378	\$ 219,600
Cost of revenues (1)	75,202	69,793	72,131	69,997
Gross profit	178,003	161,193	156,247	149,603
Net income	\$ 40,044	\$ 25,227	\$ 25,084	\$ 37,901
Earnings per share (2):				
Basic	\$ 1.31	\$ 0.82	\$ 0.81	\$ 1.22
Diluted	\$ 1.25	\$ 0.78	\$ 0.78	\$ 1.16
Shares used in computing earnings per share:				
Basic	30,534	30,914	31,017	30,989
Diluted	31,963	32,224	32,260	32,536

(1) Cost of revenues excludes amortization expense of \$0.5 million, \$0.6 million, \$0.6 million, \$0.7 million, \$1.4 million, \$1.7 million, \$1.7 million and \$1.7 million for the quarters ended September 30, 2018, June 30, 2018, March 31, 2018, December 31, 2017, September 30, 2017, June 30, 2017, March 31, 2017 and December 31, 2016, respectively.

(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 Rule 13a-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

No change in FICO's internal control over financial reporting was identified in connection with the evaluation required by Rule 13a-15(d) of the Exchange Act that occurred during the year ended September 30, 2018, 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, 2018 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, 2018.

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, 2018, 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 February 28, 2019.

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 Officer 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.	60
Michael J. Pung	November 2010-present, Executive Vice President and Chief Financial Officer of the Company. August 2004-November 2010, Vice President, Finance of the Company. 2000-2004, Vice President and Controller, Hubbard Media Group, LLC. 1999-2000, Controller, Capella Education, Inc. 1998-1999, Controller, U.S. Satellite Broadcasting, Inc. 1992-1998, various financial management positions with Deluxe Corporation. 1985-1992, various audit positions, including audit manager, at Deloitte & Touche LLP.	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.	51
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.	59
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.	54
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.	49
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.	53
Stuart C. Wells	April 2012-present, Executive Vice President, Chief Technology Officer of the Company. June 2010- April 2012, Head of Global Professional Services and Support of the Company (Consultant). February 2009-June 2010, CEO, and Chairman of the Board, ScaleMP. January 2007-January 2009, Senior Vice President and President, Avaya, Inc. April 2005-December 2006, Executive Vice President, Utility Computing, Sun Microsystems.	62

The required information regarding compliance with Section 16(a) of the Securities Exchange Act is incorporated by reference from the information under the caption “Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive proxy statement for the Annual Meeting of Stockholders to be held on February 28, 2019.

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 February 28, 2019.

Item 11. *Executive Compensation*

The information required by this Item is incorporated by reference from the information under the captions “Director Compensation for Fiscal 2018” and “Executive Compensation” in our definitive proxy statement for the Annual Meeting of Stockholders to be held on February 28, 2019.

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 February 28, 2019.

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 February 28, 2019.

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 February 28, 2019.

PART IV

Item 15. Exhibits and Financial Statement Schedules

1. Consolidated Financial Statements:

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Consolidated statements of income and comprehensive income for the years ended September 30, 2018, 2017 and 2016	53
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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.

3. Exhibits:

Exhibit Number	Description
3.1	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).)
3.2	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).)
10.1	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).)
10.2	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).)
10.3	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).)
10.4	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)
10.5	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)
10.6	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)
10.7	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)
10.8	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)
10.9	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)
10.10	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)
10.11	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)
10.12	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)
10.13	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).)
10.14	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)
10.15	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)

10.16	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)
10.17	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)
10.18	Letter Agreement dated March 7, 2012 by and between the Company and James M. Wehmann. (Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended December 31, 2012 (file no. 001-11689).)(1)
10.19	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)
10.20	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)
10.21	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)
10.22	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)
10.23	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)
10.24	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)
10.25	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)
10.26	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)
10.27	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)
10.28	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)
10.29	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)
10.30*	Form of Executive Non-Statutory Stock Option Agreement under the 2012 Long-Term Incentive Plan (U.S.), as amended November 6, 2018.
10.31	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)
10.32*	Form of Executive Restricted Stock Unit Award Agreement under the 2012 Long-Term Incentive Plan (U.S.), as amended November 8, 2018.
10.33	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)
10.34	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)

10.35	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)
10.36	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)
10.37	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)
10.38	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)
10.39	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)
10.40	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)
10.41	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)
10.42	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)
10.43	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)
10.44*	Form of Performance Share Unit Agreement (fiscal 2019) under the 2012 Long-Term Incentive Plan.
10.45	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)
10.46	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)
10.47	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)
10.48*	Form of Market Share Unit Agreement (fiscal 2019 grants) under the 2012 Long-Term Incentive Plan.
10.49	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).)
10.50	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).)
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).)
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.

(1) Management contract or compensatory plan or arrangement.

* Filed herewith.

Fair Isaac Corporation
2012 Long-Term Incentive Plan
Executive Non-Statutory Stock Option Agreement (U.S.)

Option Terms and Conditions*

1. **Grant of Stock Options.** The Company hereby grants to you, subject to the terms and conditions in this Executive Non-Statutory Stock Option Agreement (the “Agreement”) and subject to the terms and conditions of the Plan, an option to purchase the number of Shares specified on the cover page of this Agreement (the “Option”).
2. **Non-Statutory Stock Option.** This Option is not intended to be an “incentive stock option” within the meaning of Section 422 of the Code and will be interpreted accordingly.
3. **Vesting and Exercise Schedule.** This Option will vest and become exercisable as to the portion of Shares and on the dates specified on the cover page to this Agreement, so long as you remain a Service Provider or you meet the conditions set forth in Section 6 of this Agreement. The vesting and exercise schedule is cumulative, meaning that to the extent the Option has not already been exercised and has not expired, terminated or been cancelled, you or the person otherwise entitled to exercise the Option as provided in this Agreement may at any time purchase all or any portion of the Shares that may then be purchased under that schedule.

Vesting and exercisability of this Option will be accelerated during the term of the Option if your Service to the Company or any Affiliate terminates because of your death or Disability, as provided in Section 6(e)(2) of the Plan. Vesting and exercisability will also be accelerated under the circumstances described in Section 13(d) of the Plan and may be accelerated by action of the Committee in accordance with Sections 3(b)(2), 13(b)(3) and 13(c) of the Plan. Vesting and exercisability may also be accelerated upon the occurrence of events and in accordance with the terms and conditions specified in any other written agreement you have with the Company.

4. **Expiration.** This Option will expire and will no longer be exercisable at 5:00 p.m. Central Time on the earliest of:
 - (a) the expiration date specified on the cover page of this Agreement;
 - (b) the expiration of any applicable period specified in Section 6(e) of the Plan during which this Option may be exercised after your termination of Service, except as set forth in Section 6 of this Agreement;
 - (c) if the Committee has taken action to accelerate exercisability in accordance with Sections 13(b)(3) or 13(c) of the Plan, the expiration of any applicable exercise period specified by the Committee pursuant to such action;
 - (d) the date (if any) fixed for cancellation of this Option pursuant to Section 13(b)(2) or 13(d) of the Plan; or

* To the extent any capitalized term used in this Agreement is not defined, it has the meaning assigned it in the Plan as the Plan currently exists or as it is amended in the future.

- (e) the expiration of any applicable period specified in any other written agreement you have with the Company providing for accelerated vesting and exercisability.
5. **Service Requirement.** Except as otherwise provided in Section 6 of this Agreement or Section 6(e) of the Plan, and as may otherwise be provided by action of the Committee in accordance with Sections 13(b)(3) or 13(c) of the Plan, this Option may be exercised only while you continue to provide Service to the Company or an Affiliate as a Service Provider, and only if you have continuously provided such Service since the date this Option was granted.
6. **Retirement.** Notwithstanding Section 5 of this Agreement, vesting of this Option will continue in accordance with the vesting schedule specified on the cover page to this Agreement if your Service to the Company or any Affiliate terminates because of your Retirement and the following conditions are satisfied: (a) you commenced discussions with the Company's Chief Executive Officer or most senior human resources executive regarding your retirement from Service at least 12 full months prior to the date your Service terminates (the "Retirement Date") and (b) during the period beginning on your Retirement Date and ending on the final day of the vesting schedule specified on the cover page, you: (i) continue to be available to provide Service as requested and (ii) do not become employed by or otherwise provide paid services to any other entity or organization; provided, however, that you may be permitted to serve as an independent director on the board of directors for one or more entities that are not competitive with the Company's business so long as any such service as an independent director is reviewed and approved in advance by the Committee. For the avoidance of doubt, if you fail to comply with the conditions in this Section 6, you will forfeit the unvested portion of this Option. Upon your retirement in accordance with the Retirement Conditions, this Option may be exercised only until the 12-month anniversary of the date that the final portion of this Option vests, as set forth in the vesting schedule on the cover page to this Agreement.

For purposes of this Award, "Retirement" means the termination of your employment (i) when you are age 55 or older and have at least five years of continuous Service as an employee (which must be immediately preceding the date of termination) and (ii) the sum of your age as of the date of your termination plus your years of Service as an employee equals at least 75.

7. **Leave of Absence.** Your Service will be deemed continuing while you are on a leave of absence approved by the Company in writing or guaranteed by applicable law or other written agreement you have entered into with the Company (an "Approved Leave"). If you do not resume providing Service following your Approved Leave, your Service will be deemed to have terminated upon the expiration of the Approved Leave.
8. **Exercise of Option.** Subject to Section 5 of this Agreement and to the Company's policies governing trading in its securities, the vested and exercisable portion of this Option may be exercised through use of the account maintained for you at E*TRADE or another automated electronic platform approved by the Company or through delivery to the Company's Stock Administration office of written notification of exercise that states the number of Shares to be purchased and is signed or otherwise authenticated by the person exercising this Option. If the person exercising this Option is not the Optionee, he or she also must submit appropriate proof of his or her right to exercise this Option.

9. **Payment of Exercise Price.** When you submit your notice of exercise pursuant to Section 8 of this Agreement, you must include payment of the exercise price of the Shares being purchased through one or a combination of the following methods:
- (a) your personal check, a cashier's check or money order;
 - (b) to the extent permitted by law, a broker-assisted cashless exercise in which you irrevocably instruct a broker to deliver proceeds of a sale of all or a portion of the Shares for which the Option is being exercised to the Company in payment of the exercise price of such Shares, and, to the extent consistent with Section 10 of this Agreement, in payment of Tax-Related Items (as defined below);
 - (c) by delivery to the Company or its designated agent of unencumbered Shares having an aggregate Fair Market Value on the date of exercise equal to the exercise price of the Shares for which the Option is being exercised; or
 - (d) by a reduction in the number of Shares to be delivered to you upon exercise, such number of Shares to be withheld having an aggregate Fair Market Value on the date of exercise equal to the exercise price of the Shares for which the Option is being exercised.

However, if the Committee determines, in any given circumstance, that payment of the exercise price with Shares pursuant to subsection (c) above or by authorizing the Company to retain Shares pursuant to subsection (d) above is undesirable for any reason, you will not be permitted to pay any portion of the exercise price in that manner. Moreover, if the Committee determines that payment of the exercise price by one of the methods specified above is required or desirable for legal or administrative reasons, you will be required to pay the exercise price by such method.

10. **Tax Consequences and Withholding.** You acknowledge that, regardless of any action taken by the Company, the ultimate liability for all income tax, social insurance or other tax-related items related to your participation in the Plan and legally applicable to you (the "Tax-Related Items") is and remains your responsibility and may exceed the amount actually withheld by the Company. You further acknowledge that the Company (a) makes no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Option or the Shares acquired at exercise, and (b) does not commit to and is under no obligation to structure the terms of the grant or any aspect of the Option to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. Further, if you are subject to Tax-Related Items in more than one jurisdiction, you acknowledge that the Company (or your employer, if different) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to the tax withholding event, you agree to make arrangements to satisfy all Tax-Related Items. In this regard, you authorize the Company (or its agent), at its discretion, to satisfy any withholding obligation for the Tax-Related Items by one of the following methods:

- (i) withholding from proceeds of the sale of Shares acquired at exercise of the Option either through a voluntary sale or through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization without further consent);
- (ii) delivery of your authorization to E*TRADE (or another broker designated by the Company) to transfer to the Company from your account at such broker the amount of such Tax-Related Items;
- (iii) withholding from your wages or other cash compensation paid to you by the Company; and/or
- (iv) any other method approved by the Company and permitted under applicable law.

Depending on the withholding method and to the extent permitted under the Plan and applicable law, the Company may withhold for Tax-Related Items by considering minimum statutory withholding rates or up to the maximum rate applicable in your jurisdiction. In the event of any over-withholding, you will have no entitlement to the over-withheld amount in Shares and such amounts will be refunded to you in cash in accordance with applicable law.

The Company may refuse to issue or deliver the Shares or the proceeds of the sale of Shares if you fail to comply with your obligations in connection with the Tax-Related Items.

11. **Delivery of Shares.** As soon as practicable after the Company receives the notice of exercise and exercise price provided for above and determines that all conditions to exercise and delivery of Shares, including the tax withholding provisions of Section 10 and the compliance provisions of Section 19 of this Agreement, have been satisfied, it will arrange for the delivery of the Shares being purchased. Delivery of the Shares shall be effected by the electronic delivery of the Shares to a brokerage account maintained for you at E*TRADE (or another broker designated by the Company), or by another method provided by the Company. All Shares so issued will be fully paid and nonassessable.
12. **Transfer of Option.** During your lifetime, only you (or your guardian or legal representative in the event of legal incapacity) may exercise this Option except in the case of a transfer described below. You may not assign or transfer this Option other than (i) a transfer upon your death in accordance with your will, by the laws of descent and distribution or pursuant to a beneficiary designation submitted in accordance with Section 6(d) of the Plan, (ii) pursuant to a qualified domestic relations order, or (iii) by gift to any "family member" (as defined in General Instruction A.1(a)(5) to Form S-8 under the Securities Act of 1933). Following any such transfer, this Option shall continue to be subject to the same terms and conditions that were applicable to this Option immediately prior to its transfer and may be exercised by such permitted transferee as and to the extent that this Option has become exercisable and has not terminated in accordance with the provisions of the Plan and this Agreement.
13. **No Shareholder Rights Before Delivery of Shares.** Neither you nor any permitted transferee of this Option will have any of the rights of a shareholder of the Company with respect to any Shares subject to this Option until such Shares have been delivered to you or your permitted transferee pursuant to Section 11 of this Agreement. No adjustments shall be made for dividends

or other rights if the applicable record date occurs before such delivery has been effected, except as otherwise described in the Plan.

14. **Discontinuance of Service.** This Agreement does not give you a right to continued Service with the Company or any Affiliate, and the Company or any such Affiliate may terminate your Service at any time and otherwise deal with you without regard to the effect it may have upon you under this Agreement.
15. **Governing Plan Document.** This Agreement and Option are subject to all the provisions of the Plan, and to all interpretations, rules and regulations which may, from time to time, be adopted and promulgated by the Committee pursuant to the Plan. If there is any conflict between the provisions of this Agreement and the Plan, the provisions of the Plan will govern.
16. **No Advice Regarding Grant.** The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding your participation in the Plan, or your acquisition or sale of the underlying Shares. You understand and agree that you should consult with your own personal tax, legal and financial advisors regarding your participation in the Plan before taking any action related to the Plan.
17. **Choice of Law and Venue.** This Option and Agreement will be interpreted and construed in accordance with and governed by the laws of the State of Minnesota and you agree to the exclusive venue and jurisdiction of the State and Federal Courts located in Hennepin County, Minnesota and waive any objection based on lack of jurisdiction or inconvenient forum. Any action relating to or arising out of this Plan must be commenced within one year after the cause of action accrued. This provision will not apply to Participants who primarily reside and work in California.
18. **Binding Effect.** This Agreement will be binding in all respects on your heirs, representatives, successors and assigns, and on the successors and assigns of the Company.
19. **Compliance with Law.** Notwithstanding any other provision of the Plan or this Agreement, unless there is an exemption from any registration, qualification or other legal requirement applicable to the Shares, the Company shall not be required to deliver any Shares issuable upon exercise of the Option prior to the completion of any registration or qualification of the shares under any U.S. federal, state or foreign securities or exchange control law or under rulings or regulations of the U.S. Securities and Exchange Commission ("SEC") or of any other governmental regulatory body, or prior to obtaining any approval or other clearance from any local, state, federal or foreign governmental agency, which registration, qualification or approval the Company shall, in its absolute discretion, deem necessary or advisable. You understand that the Company is under no obligation to register or qualify the Shares with the SEC or any state or foreign securities commission or to seek approval or clearance from any governmental authority for the issuance or sale of the Shares. Further, you agree that the Company shall have unilateral authority to amend the Agreement without your consent to the extent necessary to comply with securities or other laws applicable to the issuance of the Shares.
20. **Insider Trading Policy.** You acknowledge that you are subject to the Company's insider trading policy as set forth in the "Statement of Company Policy as to Trades in the Company's Securities

By Company Personnel and Confidential Information” and that you are responsible for ensuring compliance with the restrictions and requirements therein.

21. **Imposition of Other Requirements.** The Company reserves the right to impose other requirements on your participation in the Plan, on the Option and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require you to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.
22. **Electronic Delivery and Participation.** The Company may, in its sole discretion, decide to deliver any documents related to current or future participation in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.
23. **Compensation Recovery Policy.** To the extent that any compensation paid or payable pursuant to this Agreement is considered “incentive-based compensation” within the meaning and subject to the requirements of Section 10D of the Exchange Act, such compensation shall be subject to potential forfeiture or recovery by the Company in accordance with any compensation recovery policy adopted by the Board or any committee thereof in response to the requirements of Section 10D of the Exchange Act and any implementing rules and regulations thereunder adopted by the SEC or any national securities exchange on which the Stock is then listed. This Agreement may be unilaterally amended by the Company to comply with any such compensation recovery policy.
24. **Waiver.** You acknowledge that a waiver by the Company of breach of any provision of this Agreement shall not operate or be construed as a waiver of any other provision of this Agreement, or of any subsequent breach by you or any other Participant.
25. **Severability.** The provisions of this Agreement are severable and if any one or more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

By accepting this Option in the manner prescribed by the Company, you agree to all the terms and conditions described in this Agreement and in the Plan document.

Fair Isaac Corporation
2012 Long-Term Incentive Plan
Executive Restricted Stock Unit Award Agreement (U.S.)

Terms and Conditions*

1. **Grant of Restricted Stock Units.** The Company hereby grants to you, subject to the terms and conditions in this Executive Restricted Stock Unit Award Agreement (the “Agreement”) and subject to the terms and conditions of the Plan, an Award of the number of Stock Units (the “Units”) specified on the cover page of this Agreement. Each Unit represents the right to receive one Share and will be credited to an account in your name maintained by the Company or its agent. This account shall be unfunded and maintained for book-keeping purposes only, with the Units simply representing an unfunded and unsecured obligation of the Company.
2. **Restrictions on Units.** Neither this Award nor the Units subject to this Award may be sold, assigned, transferred, exchanged or encumbered other than by a transfer upon your death in accordance with your will, by the applicable laws of descent and distribution or pursuant to a beneficiary designation submitted in accordance with Section 6(d) of the Plan (to the extent such designation is valid under applicable law). Any attempted transfer in violation of this Section 2 shall be of no effect and may result in the forfeiture of all Units. The Units and your right to receive Shares in settlement of the Units under this Agreement shall be subject to forfeiture as provided in Section 4 of this Agreement until satisfaction of the vesting conditions set forth in Section 3 of this Agreement.
3. **Vesting of Units.**
 - (a) **Scheduled Vesting.** If you remain a Service Provider to the Company or any of its Affiliates continuously from the Grant Date specified on the cover page of this Agreement, then the Units will vest in the numbers and on the dates specified in the vesting schedule on the cover page of this Agreement.
 - (b) **Continued Vesting.** Notwithstanding Section 3(a), vesting of the Units will continue in accordance with the vesting schedule specified on the cover page of this Agreement if your Service to the Company or any Affiliate terminates because of your Retirement and the following conditions are satisfied: (i) you commenced discussions with the Company’s Chief Executive Officer or most senior human resources executive regarding your retirement from Service at least 12 full months prior to the date your Service terminates (the “Retirement Date”) and (ii) during the period beginning on your Retirement Date and ending on the final day of the vesting schedule specified on the cover page, you: (a) continue to be available to provide Service as requested and (b) do not become employed by or otherwise provide paid services to any other entity or organization; provided, however, that you may be permitted to serve as an independent director on the board of directors for one or more entities that are not competitive with the Company’s business so long as any such service as an independent director is reviewed and approved in advance by the Committee. For the avoidance of doubt, if you fail to comply with the conditions in this Section 3(b), you will forfeit all unvested Units.

* To the extent any capitalized term used in this Agreement is not defined, it has the meaning assigned to it in the Plan as the Plan currently exists or as it is amended in the future.

For purposes of this Award, “Retirement” means the termination of your employment (i) when you are age 55 or older and have at least five years of continuous Service as an employee (which must be immediately preceding the date of termination) and (ii) the sum of your age as of the date of your termination plus your years of Service as an employee equals at least 75. Any Units that vest pursuant to this Section 3(b) shall be paid to you not later than 74 days after the applicable vesting date of the Units as specified on the cover page of this Agreement.

(c) **Accelerated Vesting.** Vesting of the Units will be accelerated if your Service to the Company or any Affiliate terminates because of your death or Disability, as provided in Section 6(e)(2) of the Plan. Vesting will also be accelerated under the circumstances described in Section 13(d) of the Plan and may be accelerated by action of the Committee in accordance with Sections 3(b)(2), 13(b)(3) and 13(c) of the Plan. Vesting may also be accelerated upon the occurrence of events and in accordance with the terms and conditions specified in any other written agreement you have with the Company.

4. **Service Requirement.** Except as otherwise provided in accordance with Sections 3(b) or 3(c) of this Agreement, if you cease to be a Service Provider to the Company or any of its Affiliates prior to the vesting date(s) specified on the cover page of this Agreement, you will forfeit all unvested Units.
5. **Leave of Absence.** Your Service will be deemed continuing while you are on a leave of absence approved by the Company in writing or guaranteed by applicable law or other written agreement you have entered into with the Company (an “Approved Leave”). If you do not resume providing Service to the Company or any Affiliate following your Approved Leave, your Service will be deemed to have terminated upon the expiration of the Approved Leave.
6. **Settlement of Units.** After any Units vest pursuant to Sections 3(a) or 3(c) of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1.409A-1(b)(4) to qualify for a short-term deferral exception to Section 409A of the Code), cause to be issued and delivered to you, or to your validly designated beneficiary or estate in the event of your death, one Share in payment and settlement of each vested Unit (the date of such issuance being the “Settlement Date”). After any Units vest pursuant to Section 3(b) of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1.409A-3(d)), cause to be issued and delivered to you, one Share in payment and settlement of each vested Unit. Delivery of the Shares shall be effected by the electronic delivery of the Shares to a brokerage account maintained for you at E*TRADE or another broker designated by the Company, or by another method provided by the Company, and shall be subject to the tax withholding provisions of Section 7 of this Agreement and the compliance provisions of Section 15 of this Agreement.
7. **Tax Consequences and Withholding.** You acknowledge that, regardless of any action taken by the Company, the ultimate liability for all income tax, social insurance or other tax-related items related to your participation in the Plan and legally applicable to you (the “Tax-Related Items”) is and remains your responsibility and may exceed the amount actually withheld by the

Company. You further acknowledge that the Company (a) makes no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Award or the Shares acquired pursuant to the Award, and (b) does not commit to and is under no obligation to structure the terms of the grant or any aspect of the Award to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. Further, if you are subject to Tax-Related Items in more than one jurisdiction, you acknowledge that the Company (or your employer, if different) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to the tax withholding event, you agree to make arrangements to satisfy all Tax-Related Items. In this regard, you authorize the Company to satisfy any applicable withholding obligation for the Tax-Related Items through an automatic Share withholding procedure (the "Share Withholding Method"). Under the Share Withholding Method, the Company or its agent will withhold, upon the tax withholding event, a portion of the Shares with a Fair Market Value (measured as of such date) sufficient to cover the Tax-Related Items; provided, however, that the number of any Shares so withheld shall not exceed the number necessary to satisfy the Company's withholding obligation using the applicable minimum statutory withholding rate or such other rate as may be permitted under the Plan up to the maximum rate applicable in your jurisdiction. You will be deemed to have been issued the full number of Shares subject to the vested Units, notwithstanding that a number of the Shares are held back solely for the purpose of paying the Tax-Related Items.

In the event the Committee determines that the Share Withholding Method would be problematic under applicable tax or securities laws or would result in materially adverse accounting consequences, you authorize the Company to collect the Tax-Related Items through, one of the following alternative methods:

- (a) the use of the proceeds from a next-day sale of the Shares issued to you, provided that (i) such sale is permissible under the Company's trading policies governing its securities, (ii) you make an irrevocable commitment, on or before a Settlement Date, to effect such sale of the Shares, and (iii) the transaction is not otherwise deemed to constitute a prohibited loan under Section 402 of the Sarbanes-Oxley Act of 2002
- (b) delivery of your authorization to E*TRADE (or another broker designated by the Company) to transfer to the Company from your account at such broker the amount of such Tax-Related Items;
- (c) withholding from your wages or other cash compensation paid to you by the Company; and/or
- (d) any other method approved by the Company and permitted under applicable law.

In the event of any over-withholding, you will have no entitlement to the over-withheld amount in Shares and such amounts will be refunded to you in cash in accordance with applicable law.

The Company may refuse to issue or deliver the Shares or the proceeds of the sale of Shares, if you fail to comply with your obligations in connection with the Tax-Related Items.

8. **No Shareholder Rights Before Settlement.** The Units subject to this Award do not entitle you to any rights of a shareholder of the Company. You will not have any of the rights of a shareholder of the Company in connection with the grant of Units subject to this Award unless and until Shares are issued to you upon settlement of the Units as provided in Section 6 of this Agreement.
9. **Discontinuance of Service.** This Agreement does not give you a right to continued Service with the Company or any Affiliate, and the Company or any such Affiliate may terminate your Service at any time and otherwise deal with you without regard to the effect it may have upon you under this Agreement.
10. **Governing Plan Document.** This Agreement and the Award are subject to all the provisions of the Plan, and to all interpretations, rules and regulations which may, from time to time, be adopted and promulgated by the Committee pursuant to the Plan. If there is any conflict between the provisions of this Agreement and the Plan, the provisions of the Plan will govern.
11. **No Advice Regarding Grant.** The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding your participation in the Plan, or your acquisition or sale of the underlying Shares. You understand and agree that you should consult with your own personal tax, legal and financial advisors regarding your participation in the Plan before taking any action related to the Plan.
12. **Choice of Law and Venue.** This Award and Agreement will be interpreted and construed in accordance with and governed by the laws of the State of Minnesota, and all Participants agree to the exclusive venue and jurisdiction of the State and Federal Courts located in Hennepin County, Minnesota and waive any objection based on lack of jurisdiction or inconvenient forum. Any action relating to or arising out of this Plan must be commenced within one year after the cause of action accrued. This provision will not apply to Participants who primarily reside and work in California.
13. **Binding Effect.** This Agreement will be binding in all respects on your heirs, representatives, successors and assigns, and on the successors and assigns of the Company.
14. **Compliance with Law.** Notwithstanding any other provision of the Plan or this Agreement, unless there is an exemption from any registration, qualification or other legal requirement applicable to the Shares, the Company shall not be required to deliver any Shares issuable upon settlement of the Units prior to the completion of any registration or qualification of the shares under U.S. federal, state or foreign securities or exchange control law or under rulings or regulations of the U.S. Securities and Exchange Commission (“SEC”) or of any other governmental regulatory body, or prior to obtaining any approval or other clearance from any local, state, federal or foreign governmental agency, which registration, qualification or approval the Company shall, in its absolute discretion, deem necessary or advisable. You understand that the Company is under no obligation to register or qualify the Shares with the SEC or any state or foreign securities commission or to seek approval or clearance from any governmental authority for the issuance or sale of the Shares. Further, you agree that the Company shall have unilateral authority to amend the Agreement without your consent to the extent necessary to comply with securities or other laws applicable to the issuance of the Shares.

15. **Insider Trading Policy.** You acknowledge that you are subject to the Company's insider trading policy as set forth in the "Statement of Company Policy as to Trades in the Company's Securities By Company Personnel and Confidential Information" and that you are responsible for ensuring compliance with the restrictions and requirements therein.
16. **Imposition of Other Requirements.** The Company reserves the right to impose other requirements on your participation in the Plan, on the Award and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require you to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.
17. **Electronic Delivery and Participation.** The Company may, in its sole discretion, decide to deliver any documents related to current or future participation in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.
18. **Section 409A of the Code.** The Units as provided in this Agreement and any issuance of Shares or payment pursuant to this Agreement are intended to either be exempt from or comply with Section 409A of the Code so as not to subject you to payment of any additional tax, penalty or interest imposed under Section 409A of the Code. The provisions of this Award shall be construed and interpreted to avoid the imputation of any such additional tax, penalty or interest under Section 409A of the Code yet preserve (to the nearest extent reasonably possible) the intended benefit payable to you.
19. **Compensation Recovery Policy.** To the extent that any compensation paid or payable pursuant to this Agreement is considered "incentive-based compensation" within the meaning and subject to the requirements of Section 10D of the Exchange Act, such compensation shall be subject to potential forfeiture or recovery by the Company in accordance with any compensation recovery policy adopted by the Board or any committee thereof in response to the requirements of Section 10D of the Exchange Act and any implementing rules and regulations thereunder adopted by the SEC or any national securities exchange on which the Stock is then listed. This Agreement may be unilaterally amended by the Company to comply with any such compensation recovery policy.
20. **Waiver.** You acknowledge that a waiver by the Company of breach of any provision of this Agreement shall not operate or be construed as a waiver of any other provision of this Agreement, or of any subsequent breach by you or any other Participant.
21. **Severability.** The provisions of this Agreement are severable and if any one or more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

By accepting this Award in the manner prescribed by the Company, you agree to all the terms and conditions described in this Agreement and in the Plan document.

Executive Performance Share Unit Award Agreement**Fair Isaac Corporation
2012 Long-Term Incentive Plan****Performance Share Unit Agreement**

This Performance Share Unit Award Agreement (this “Agreement”), dated December 8, 2018 (the “Grant Date”), is by and between *[Name] (the “Participant”), and Fair Isaac Corporation, a Delaware corporation (the “Company”). Any term capitalized but not defined in this Agreement will have the meaning set forth in the Company’s 2012 Long-Term Incentive Plan (the “Plan”).

In the exercise of its discretion to grant Awards under the Plan, the Committee has determined that the Participant should receive an Award of performance share units under the Plan. This Award is subject to the following terms and conditions:

1. **Grant of Performance Share Units.** The Company hereby grants to the Participant an Award consisting of *[Insert maximum number of units the participant could earn] performance share units (the “Units”). Each Unit that has been earned pursuant to Section 3 of this Agreement and vests pursuant to Section 4 of this Agreement represents the right to receive one share of the Company’s common stock as provided in Section 7 of this Agreement. The Award will be subject to the terms and conditions of the Plan and this Agreement.
2. **Restrictions on Units.** Neither this Award nor the Units subject to this Award may be sold, assigned, transferred, exchanged or encumbered other than a transfer upon death in accordance with the Participant’s will, by the laws of descent and distribution or pursuant to a beneficiary designation submitted by the Participant in accordance with Section 6(d) of the Plan. Any attempted transfer in violation of this Section 2 shall be of no effect and may result in the forfeiture of all Units. The Units and the Participant’s right to receive Shares in settlement of the Units under this Agreement shall be subject to forfeiture as provided in this Agreement until satisfaction of the conditions for earning and vesting the Units as set forth in Section 3 and Section 4, respectively, of this Agreement.
3. **Earned Units.** Whether and to what degree the Units will have been earned (the “Earned Units”) during the period starting on October 1, 2018 and ending on September 30, 2019 (the “Performance Period”) will be determined by whether and to what degree the Company has satisfied the applicable performance goal(s) for the Performance Period as set forth in Appendix A to this Agreement, and whether and to what degree the Committee has chosen to exercise its discretion to decrease the number of Units otherwise deemed to have been earned. The Participant acknowledges that in order to facilitate qualifying this Award as “performance-based compensation” for purposes of Section 162(m) of the Code, the Committee expects to exercise such discretion and to be guided in the exercise of such discretion based on the degree to which the Company has satisfied during the Performance Period the additional performance

parameters specified in Appendix A. Any Units that are not designated as Earned Units at the conclusion of the Performance Period in accordance with this Section 3 will be forfeited.

4. **Vesting of Earned Units.** Subject to Section 6 of this Agreement, if the Participant remains a Service Provider continuously from the Grant Date, then $\frac{1}{3}$ of the Earned Units will vest on each of December 8, 2019, December 8, 2020 and December 8, 2021. The period from October 1, 2019 through December 8, 2021 is referred to as the “Vesting Period.”
5. **Service Requirement.** Except as otherwise provided in accordance with Section 6 of this Agreement, if you cease to be a Service Provider prior to the vesting dates specified in Section 4 of this Agreement, you will forfeit all unvested Units. Your Service will be deemed continuing while you are on a leave of absence approved by the Company in writing or guaranteed by applicable law or other written agreement you have entered into with the Company (an “Approved Leave”). If you do not resume providing Service to the Company or any Affiliate following your Approved Leave, your Service will be deemed to have terminated upon the expiration of the Approved Leave.
6. **Effect of Termination of Service or Change in Control.**

(a) Except as may be provided under the remainder of this Section 6, upon termination of Service during the Performance Period for any reason other than retirement in accordance with the Retirement Conditions, death or Disability, all Units will be immediately forfeited without consideration.

(b) Upon (i) termination of Service during the Performance Period due to death or Disability, 50% of the number of Units subject to this Award will be deemed Earned Units and will vest in full upon such termination, or (ii) a Change in Control during the Performance Period as a result of which the Company does not survive as an operating company or survives only as a subsidiary of another entity (a “Business Combination”), 50% of the number of Units subject to this Award will be deemed Earned Units and will vest in full upon or immediately before, and conditioned upon, the consummation of the Business Combination. Any remaining Units that do not vest as provided in this Section 6(b) will be immediately forfeited without consideration. In connection with a Change in Control during the Performance Period that is not a Business Combination, the Committee may provide in its discretion that 50% of the number of Units subject to this Award will be deemed Earned Units and will vest in full upon the occurrence of the Change in Control or upon the termination of the Participant’s Service as an employee within 12 months following the Change in Control.

(c) Except as may be provided by the Committee pursuant to Section 6(e) or (f), upon termination of Service during the Vesting Period for any reason other than retirement in accordance with the Retirement Conditions, death or Disability, all Earned Units that have not vested will be immediately forfeited without consideration.

(d) Upon (i) termination of Service during the Vesting Period due to death or Disability, all Earned Units will vest in full upon such termination, or (ii) a Business Combination during the Vesting Period, all Earned Units will vest in full upon or immediately before, and conditioned upon, the consummation of the Business Combination. In connection with a Change

in Control during the Vesting Period that is not a Business Combination, the Committee may provide in its discretion that all Earned Units will vest in full upon the occurrence of the Change in Control or upon the termination of the Participant's Service as an employee within 12 months following the Change in Control.

(e) Notwithstanding anything to the contrary in this Agreement, the Units shall continue to be earned in accordance with Section 3 of this Agreement and vest over the Vesting Period in accordance with Section 4 of this Agreement if your Service to the Company or any Affiliate terminates because of your Retirement and the following conditions are satisfied: (i) you commenced discussions with the Company's Chief Executive Officer or most senior human resources executive regarding your retirement from Service at least 12 full months prior to the date your Service terminates (the "Retirement Date") and (ii) during the period beginning on your Retirement Date and ending on the final day of the Vesting Period, you: (a) continue to be available to provide Service as requested and (b) do not become employed by or otherwise provide paid services to any other entity or organization; provided, however, that you may be permitted to serve as an independent director on the board of directors for one or more entities that are not competitive with the Company's business so long as any such service as an independent director is reviewed and approved in advance by the Committee. For the avoidance of doubt, if you fail to comply with the conditions in this Section 6(e), you will forfeit all unvested Earned Units.

For purposes of this Agreement, "Retirement" means the termination of your employment (i) when you are age 55 or older and have at least five years of continuous Service as an employee (which must be immediately preceding the date of termination) and (ii) the sum of your age as of the date of your termination plus your years of Service as an employee equals at least 75. Any Units that vest pursuant to this Section 6(e) shall be paid to you not later than 74 days after the applicable vesting date of the Units as specified in Section 4 of this Agreement.

7. **Settlement of Units.** After any Units vest pursuant to Section 4 or Section 6 of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1.409A-1(b)(4) to qualify for a short-term deferral exception to Section 409A of the Code), cause to be issued and delivered to the Participant, or to the Participant's designated beneficiary or estate in the event of the Participant's death, one Share in payment and settlement of each vested Unit (the date of each such issuance being a "Settlement Date"). After any Units vest pursuant to Section 6(e) of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1.409A-3(d)), cause to be issued and delivered to you, one Share in payment and settlement of each vested Unit. Delivery of the Shares shall be effected by the electronic delivery of the Shares to a brokerage account maintained for the Participant at E*TRADE (or another broker designated by the Company or the Participant), or by another method provided by the Company, and shall be subject to the tax withholding provisions of Section 8 of this Agreement and compliance with all applicable legal requirements, including compliance with the requirements of applicable federal and state securities laws, and shall be in complete satisfaction and settlement of such vested Units. Notwithstanding the foregoing, the Committee may provide that the settlement of any Earned Units that vest in accordance with Section 6(b)(ii) or 6(d)(ii) of this Agreement will be made in the amount and in the form of the consideration (whether stock, cash, other securities or property, or a combination thereof) to which a holder of a Share was entitled upon the consummation of

the Business Combination (without interest thereon) (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares).

8. **Tax Consequences and Withholding.** As a condition precedent to the settlement of the Units, the Participant is required to make arrangements acceptable to the Company for payment of any federal, state or local withholding taxes that may be due as a result of the settlement of the Units (“Withholding Taxes”), in accordance with Section 15 of the Plan.

Until such time as the Company provides notice to the contrary, it will collect the Withholding Taxes through an automatic Share withholding procedure (the “Share Withholding Method”), unless other arrangements acceptable to the Company have been made. Under such procedure, the Company or its agent will withhold, upon the tax withholding event, a portion of the Shares with a Fair Market Value (measured as of such date) sufficient to cover the amount of such taxes; provided, however, that the number of any Shares so withheld shall not exceed the number necessary to satisfy the Company’s required tax withholding obligations using the minimum statutory withholding rates for federal, state and local tax purposes that are applicable to supplemental taxable income.

In the event that the Committee determines that the Share Withholding Method would be problematic under applicable tax or securities laws or would result in materially adverse accounting consequences, you authorize the Company to collect Withholding Taxes through one of the following methods:

(a) delivery of the Participant’s authorization to E*TRADE (or another broker designated by the Company or the Participant) to transfer to the Company from the Participant’s account at such broker the amount of such Withholding Taxes;

(b) the use of the proceeds from a next-day sale of the Shares issued to the Participant, provided that (i) such sale is permissible under the Company’s trading policies governing its securities, (ii) the Participant makes an irrevocable commitment, on or before a Settlement Date, to effect such sale of the Shares, and (iii) the transaction is not otherwise deemed to constitute a prohibited loan under Section 402 of the Sarbanes-Oxley Act of 2002; or

(c) any other method approved by the Company.

9. **No Shareholder Rights.** The Units subject to this Award do not entitle the Participant to any rights of a shareholder of the Company’s common stock. The Participant will not have any of the rights of a shareholder of the Company in connection with the grant of Units subject to this Agreement unless and until Shares are issued to the Participant upon settlement of the Units as provided in Section 7 of this Agreement.

10. **Governing Plan Document.** This Agreement and the Award are subject to all the provisions of the Plan, and to all interpretations, rules and regulations which may, from time to time, be adopted and promulgated by the Committee pursuant to the Plan. If there is any conflict between the provisions of this Agreement and the Plan, the provisions of the Plan will govern.

11. **Choice of Law.** This Agreement will be interpreted and enforced under the laws of the state of Minnesota (without regard to its conflicts or choice of law principles).
12. **Binding Effect.** This Agreement will be binding in all respects on the Participant's heirs, representatives, successors and assigns, and on the successors and assigns of the Company.
13. **Discontinuance of Service.** This Agreement does not give the Participant a right to continued Service with the Company or any Affiliate, and the Company or any such Affiliate may terminate the Participant's Service at any time and otherwise deal with the Participant without regard to the effect it may have upon the Participant under this Agreement.
14. **Section 409A of the Code.** The Units as provided in this Agreement and any issuance of Shares or payment pursuant to this Agreement are intended to either be exempt from or comply with Section 409A of the Code so as not to subject you to payment of any additional tax, penalty or interest imposed under Section 409A of the Code. The provisions of this Agreement shall be construed and interpreted to avoid the imputation of any such additional tax, penalty or interest under Section 409A of the Code yet preserve (to the nearest extent reasonably possible) the intended benefit payable to you.
15. **Compensation Recovery Policy.** To the extent that any compensation paid or payable pursuant to this Agreement is considered "incentive-based compensation" within the meaning of (i) the Company's Executive Officer Incentive Compensation Recovery Policy, (ii) any similar or superseding policy adopted by the Board or any committee thereof or (iii) Section 10D of the Exchange Act and any implementing rules and regulations thereunder adopted by the Securities and Exchange Commission or any national securities exchange on which the Company's common stock is then listed, such compensation shall be subject to potential forfeiture or recovery by the Company in accordance with such policies, laws, rules or regulations.

By executing this Agreement, the Participant accepts this Award and agrees to all the terms and conditions described in this Agreement and in the Plan document.

PARTICIPANT FAIR ISAAC CORPORATION

By: _____

Title: _____

Fair Isaac Corporation
2012 Long-Term Incentive Plan

Market Share Unit Agreement

This Market Share Unit Award Agreement (this “Agreement”), dated December 8, 2018 (the “Grant Date”), is by and between *[Name] (the “Participant”), and Fair Isaac Corporation, a Delaware corporation (the “Company”). Any term capitalized but not defined in this Agreement will have the meaning set forth in the Company’s 2012 Long-Term Incentive Plan (the “Plan”).

In the exercise of its discretion to grant Awards under the Plan, the Committee has determined that the Participant should receive an Award of market share units under the Plan (the “Units”). This Award is subject to the following terms and conditions:

1. **Grant of Market Share Units.** The Company hereby grants to the Participant an Award consisting of *[_____] Units (the “Target Units”), subject to possible decrease to as few as 0 Units and to possible increase to as many as *[_____] Units as provided by this Agreement. Each Unit that has been earned pursuant to Section 3 of this Agreement and vests pursuant to Section 4 of this Agreement represents the right to receive one share of the Company’s common stock as provided in Section 7 of this Agreement. The Award will be subject to the terms and conditions of the Plan and this Agreement.
2. **Restrictions on Units.** Neither this Award nor the Units subject to this Award may be sold, assigned, transferred, exchanged or encumbered other than a transfer upon death in accordance with the Participant’s will, by the laws of descent and distribution or pursuant to a beneficiary designation submitted by the Participant in accordance with Section 6(d) of the Plan. Any attempted transfer in violation of this Section 2 shall be of no effect and may result in the forfeiture of all Units. The Units and the Participant’s right to receive Shares in settlement of the Units under this Agreement shall be subject to forfeiture as provided in this Agreement until satisfaction of the conditions for earning and vesting the Units as set forth in Section 3 and Section 4 of this Agreement, respectively.
3. **Earned Units.** Whether and to what degree the Units are earned will be determined by the relationship between the Company’s total shareholder return performance relative to that of a benchmark index during three performance periods: Performance Period 1 will start on December 1, 2018 and end on November 30, 2019, Performance Period 2 will start on December 1, 2018 and end on November 30, 2020, and Performance Period 3 will start on December 1, 2018 and end on November 30, 2021 (each, a “Performance Period”). The Performance Periods may be adjusted under the circumstances and to the extent specified in Section 6(b) of this Agreement.
 - (a) The number of Units subject to this Award that will be deemed earned at the conclusion of Performance Period 1 (the “Period 1 Earned Units”) will equal $\frac{1}{3}$ of the number of Target Units multiplied by the Relative Return Factor (calculated in accordance with

Appendix A to this Agreement) applicable to Performance Period 1, rounded down to the nearest whole Unit in case of a fraction.

(b) The number of Units subject to this Award that will be deemed earned at the conclusion of Performance Period 2 (the “Period 2 Earned Units”) will equal $\frac{1}{3}$ of the number of Target Units multiplied by the Relative Return Factor applicable to Performance Period 2, rounded down to the nearest whole Unit in case of a fraction.

(c) The number of Units subject to this Award that will be deemed earned at the conclusion of Performance Period 3 (the “Period 3 Earned Units”) will equal the number of Target Units multiplied by the Relative Return Factor applicable to Performance Period 3, rounded down to the nearest whole Unit in case of a fraction, minus the sum of the Period 1 Earned Units and the Period 2 Earned Units; provided that if a negative number results from the calculation of Period 3 Earned Units, the number of Period 3 Earned Units will be deemed to be 0.

(d) Any Units that are not deemed to be Period 1 Earned Units, Period 2 Earned Units, or Period 3 Earned Units in accordance with this Section 3 will be forfeited without consideration.

4. **Vesting of Earned Units.** Subject to Section 6 of this Agreement, if the Participant remains a Service Provider continuously from the Grant Date, then all Period 1 Earned Units will vest as of December 8, 2019, all Period 2 Earned Units will vest as of December 8, 2020, and all Period 3 Earned Units will vest as of December 8, 2021.

5. **Service Requirement.** Except as otherwise provided in accordance with Section 6 of this Agreement, if you cease to be a Service Provider prior to the vesting dates specified in Section 4 of this Agreement, you will forfeit all unvested Units. Your Service will be deemed continuing while you are on a leave of absence approved by the Company in writing or guaranteed by applicable law or other written agreement you have entered into with the Company (an “Approved Leave”). If you do not resume providing Service to the Company or any Affiliate following your Approved Leave, your Service will be deemed to have terminated upon the expiration of the Approved Leave.

6. **Effect of Termination of Service or Change in Control.**

(a) Except as provided under the remainder of this Section 6, upon termination of Service prior to the final vesting date, any unvested Units will be immediately forfeited without consideration.

(b) Upon a Change in Control as a result of which the Company does not survive as an operating company or survives only as a subsidiary of another entity (a “Business Combination”) that is consummated before the end of Performance Period 3, the following provisions apply:

(i) Each Performance Period during which the Business Combination occurs will be truncated so that it ends on the date the Business Combination is consummated (each, an “Adjusted Performance Period”).

(ii) The number of Units deemed earned at the conclusion of each Adjusted Performance Period (the “Adjusted Period Earned Units”) will be calculated as specified in Section 3(a), (b), or (c) of this Agreement, as applicable, using the modified calculation of the Relative Return Factor set forth in Appendix A.

(iii) A portion of the Adjusted Period Earned Units for each Adjusted Performance Period will vest in full upon or immediately before, and conditioned upon, the consummation of the Business Combination, with such portion determined by multiplying the number of Adjusted Period Earned Units for that Adjusted Performance Period by a fraction, the numerator of which equals the number of days contained in the Adjusted Performance Period and the denominator of which equals the number of days contained in the Performance Period without adjustment (the “Accelerated Units”).

(iv) The number of Adjusted Period Earned Units in excess of the number of Accelerated Units for each Adjusted Performance Period (the “Time-Based Units”) will vest ratably on the 8th day of each month during the period beginning with the consummation of the Business Combination and ending on December 8, 2021, provided the Participant’s Service as an employee with the acquiring or surviving entity in the Business Combination (or with any of its affiliated entities) continues without interruption. If the Participant experiences an involuntary termination of Service for reasons other than Cause during such vesting period, the Time-Based Units will vest in full.

(c) In connection with a Change in Control that is not a Business Combination and that is consummated before the end of Performance Period 3, the Committee may provide in its discretion that some or all of the unearned and unvested Units subject to this Award will be deemed earned and will vest in full upon the occurrence of the Change in Control or upon the termination of the Participant’s Service as an employee within 12 months following the Change in Control.

(d) In connection with a Change in Control that is consummated after the end of Performance Period 3 but before December 8, 2021, the Period 3 Earned Units will vest in full upon the consummation of such a Change in Control.

(e) In connection with a termination of Service due to death or Disability before the end of Performance Period 3, a number of Units equal to the Target Units minus the sum of any vested Period 1 Earned Units and vested Period 2 Earned Units will vest in full upon such termination. In connection with a termination of Service due to death or Disability after the end of Performance Period 3 but before December 8, 2021, the Period 3 Earned Units will vest in full upon such termination.

(f) Notwithstanding anything to the contrary in this Agreement, the Units will continue to be earned and vest in accordance with Sections 3 and 4 of this Agreement if your Service to the Company or any Affiliate terminates because of your Retirement and the following

conditions are satisfied: (i) you commenced discussions with the Company's Chief Executive Officer or most senior human resources executive regarding your retirement from Service at least 12 full months prior to the date your Service terminates (the "Retirement Date") and (ii) during the period beginning on your Retirement Date and ending on the final day of the vesting periods set forth in Section 4 of this Agreement, you: (a) continue to be available to provide Service as requested and (b) do not become employed by or otherwise provide paid services to any other entity or organization; provided, however, that you may be permitted to serve as an independent director on the board of directors for one or more entities that are not competitive with the Company's business so long as any such service as an independent director is reviewed and approved in advance by the Committee. For the avoidance of doubt, if you fail to comply with the conditions in this Section 6(f), you will forfeit all unvested Earned Units.

For purposes of this Agreement, "Retirement" means the termination of your employment (a) when you are age 55 or older and have at least five years of continuous Service as an employee (which must be immediately preceding the date of termination) and (b) the sum of your age as of the date of your termination plus your years of Service as an employee equals at least 75. Any Units that vest pursuant to this Section 6(b) shall be paid to you not later than 74 days after the applicable vesting date of the Units as specified in Section 4 of this Agreement.

7. **Settlement of Units.** After any Units vest pursuant to Section 4 or Section 6 of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1.409A-1(b)(4) to qualify for a short-term deferral exception to Section 409A of the Code), cause to be issued and delivered to the Participant, or to the Participant's designated beneficiary or estate in the event of the Participant's death, one Share in payment and settlement of each vested Unit (the date of each such issuance being a "Settlement Date"). After any Units vested pursuant to Section 6(f) of this Agreement, the Company shall, as soon as practicable (but in any event within the period specified in Treas. Reg. § 1,409A-3(d)), cause to be issued and delivered to you, one Share in payment and settlement of each vested Unit. Delivery of the Shares shall be effected by the electronic delivery of the Shares to a brokerage account maintained for the Participant at E*TRADE (or another broker designated by the Company or the Participant), or by another method provided by the Company, and shall be subject to the tax withholding provisions of Section 8 of this Agreement and compliance with all applicable legal requirements, including compliance with the requirements of applicable federal and state securities laws, and shall be in complete satisfaction and settlement of such vested Units. Notwithstanding the foregoing, (i) the settlement of each Time-Based Unit that vests in accordance with Section 6(b)(iv) of this Agreement will be made in the amount and in the form of the consideration (whether stock, cash, other securities or property, or a combination thereof) to which a holder of a Share was entitled upon the consummation of the Business Combination (without interest thereon) (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares), and (ii) the Committee may provide for the settlement of Adjusted Period Earned Units that vest in accordance with Section 6(b)(iii) of this Agreement or for the settlement of Period 3 Earned Units that vest under the circumstances specified in Section 6(d) of this Agreement on the same basis as described in the preceding clause (i).
8. **Tax Consequences and Withholding.** As a condition precedent to the delivery of Shares in settlement of the Units, the Participant is required to make arrangements acceptable to the

Company for payment of any federal, state or local withholding taxes that may be due as a result of the settlement of the Units (“Withholding Taxes”), in accordance with Section 15 of the Plan.

Until such time as the Company provides notice to the contrary, it will collect the Withholding Taxes through an automatic Share withholding procedure (the “Share Withholding Method”), unless other arrangements acceptable to the Company have been made. Under such procedure, the Company or its agent will withhold, upon the tax withholding event, a portion of the Shares with a Fair Market Value (measured as of such date) sufficient to cover the amount of such taxes; provided, however, that the number of any Shares so withheld shall not exceed the number necessary to satisfy the Company’s required tax withholding obligations using the minimum statutory withholding rates for federal, state and local tax purposes that are applicable to supplemental taxable income.

In the event that the Committee determines that the Share Withholding Method would be problematic under applicable tax or securities laws or would result in materially adverse accounting consequences, you authorize the Company to collect Withholding Taxes through one of the following methods:

(a) delivery of the Participant’s authorization to E*TRADE (or another broker designated by the Company or the Participant) to transfer to the Company from the Participant’s account at such broker the amount of such Withholding Taxes;

(b) the use of the proceeds from a next-day sale of the Shares issued to the Participant, provided that (i) such sale is permissible under the Company’s trading policies governing its securities, (ii) the Participant makes an irrevocable commitment, on or before a Settlement Date, to effect such sale of the Shares, and (iii) the transaction is not otherwise deemed to constitute a prohibited loan under Section 402 of the Sarbanes-Oxley Act of 2002; or

(c) any other method approved by the Company.

9. **No Shareholder Rights.** The Units subject to this Award do not entitle the Participant to any rights of a shareholder of the Company’s common stock. The Participant will not have any of the rights of a shareholder of the Company in connection with the grant of Units subject to this Agreement unless and until Shares are issued to the Participant upon settlement of the Units as provided in Section 7 of this Agreement.

10. **Governing Plan Document.** This Agreement and the Award are subject to all the provisions of the Plan, and to all interpretations, rules and regulations which may, from time to time, be adopted and promulgated by the Committee pursuant to the Plan. If there is any conflict between the provisions of this Agreement and the Plan, the provisions of the Plan will govern.

11. **Choice of Law.** This Agreement will be interpreted and enforced under the laws of the state of Minnesota (without regard to its conflicts or choice of law principles).

12. **Binding Effect.** This Agreement will be binding in all respects on the Participant’s heirs, representatives, successors and assigns, and on the successors and assigns of the Company.

13. **Discontinuance of Service.** This Agreement does not give the Participant a right to continued Service with the Company or any Affiliate, and the Company or any such Affiliate may terminate the Participant's Service at any time and otherwise deal with the Participant without regard to the effect it may have upon the Participant under this Agreement.
14. **Section 409A of the Code.** The Units as provided in this Agreement and any issuance of Shares or payment pursuant to this Agreement are intended to either be exempt from or comply with Section 409A of the Code so as not to subject you to payment of any additional tax, penalty or interest imposed under Section 409A of the Code. The provisions of this Agreement shall be construed and interpreted to avoid the imputation of any such additional tax, penalty or interest under Section 409A of the Code yet preserve (to the nearest extent reasonably possible) the intended benefit payable to you.
15. **Compensation Recovery Policy.** To the extent that any compensation paid or payable pursuant to this Agreement is considered "incentive-based compensation" within the meaning of (i) the Company's Executive Officer Incentive Compensation Recovery Policy, (ii) any similar or superseding policy adopted by the Board or any committee thereof or (iii) Section 10D of the Exchange Act and any implementing rules and regulations thereunder adopted by the Securities and Exchange Commission or any national securities exchange on which the Company's common stock is then listed, such compensation shall be subject to potential forfeiture or recovery by the Company in accordance with such policies, laws, rules or regulations.

By executing this Agreement, the Participant accepts this Award and agrees to all the terms and conditions described in this Agreement and in the Plan document.

PARTICIPANT FAIR ISAAC CORPORATION

By: _____
Title: _____

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
Blade, Inc. ⁽²⁾	Delaware
Entiera, Inc. ⁽¹⁾	Delaware
Entiera Solutions Company Limited ⁽³⁾	Thailand
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⁾ (formerly, Fair Isaac Africa Ltd.)	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 (Adepra) 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 (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

Footnotes:

- (1) 100% owned by Fair Isaac Corporation
- (2) 100% owned by Fair Isaac Holdings, Inc.
- (3) 99.99% owned by Entiera, Inc., .005% owned by Fair Isaac Asia Holdings, Inc. and .005% owned by Fair Isaac Asia Pacific Corp.- **In liquidation**
- (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

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements No. 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 33-63426 on Form S-8 of our report dated November 9, 2018, relating to the consolidated financial statements of Fair Isaac Corporation and subsidiaries 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, 2018.

/s/ Deloitte & Touche LLP
San Diego, CA
November 9, 2018

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 9, 2018

/s/ WILLIAM J. LANSING

William J. Lansing

Chief Executive Officer

CERTIFICATIONS

I, Michael J. Pung, 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 9, 2018

/s/ MICHAEL J. PUNG

Michael J. Pung

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 9, 2018

/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 9, 2018

/s/ MICHAEL J. PUNG

Michael J. Pung

Chief Financial Officer