All Under *One Roof*

2016 Annual Report

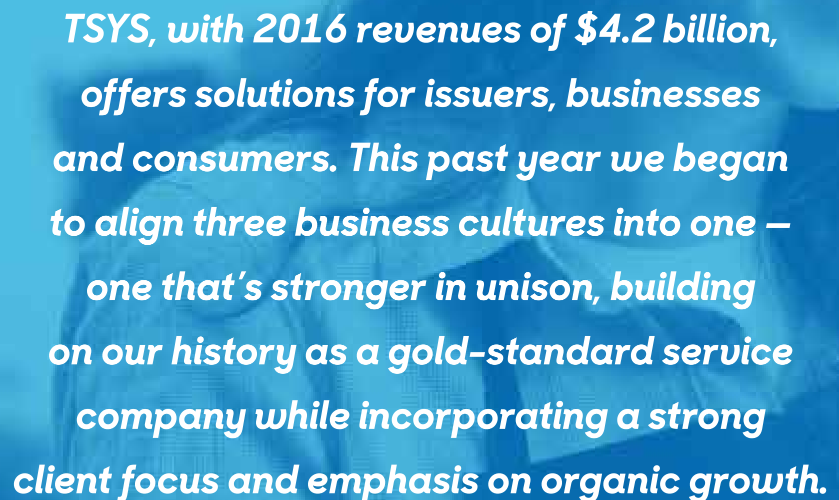
TSYS®

Across the payments spectrum, there's a continuum. At TSYS®, we touch every part of it. And we can say with confidence that we're the industry's leading choice for issuing, merchant and prepaid solutions — ***all under one roof.***

We are unlocking *payment opportunities.*℠

Payments are changing, and fast. We put people at the forefront of that change.

In the future, we'll be paying in ways we can't even imagine today. At TSYS, we help our customers anticipate that future, through our products, solutions and expertise.



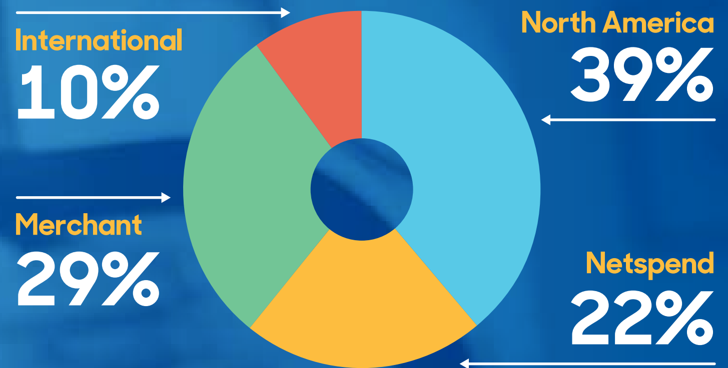
TSYS, with 2016 revenues of $4.2 billion, offers solutions for issuers, businesses and consumers. This past year we began to align three business cultures into one — one that's stronger in unison, building on our history as a gold-standard service company while incorporating a strong client focus and emphasis on organic growth.

As we look toward the remainder of 2017, we're a distinctly stronger company than we were at this time last year.

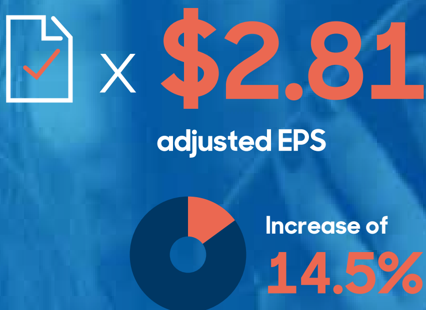
Our Performance *Summary*

Total Revenues

*Net Revenue by Segment**



*Earnings Per Share**



Cardholder Transactions

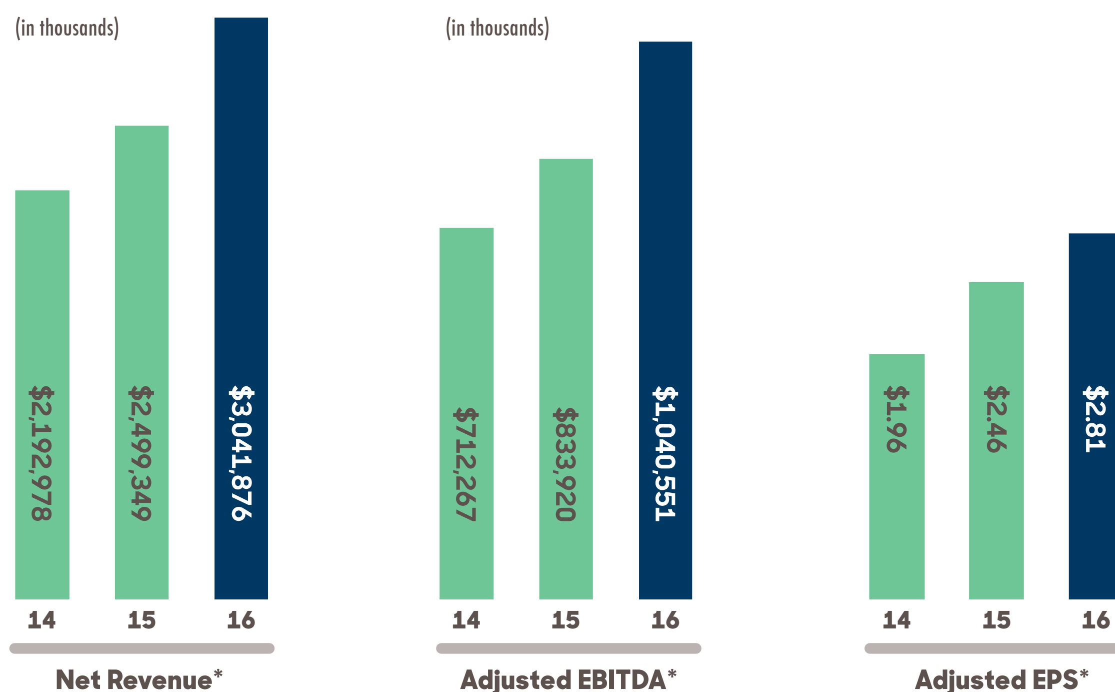
transactions processed
per year *(excluding Netspend)*

Closing Stock Price

(as of 12/31/2016)

*Adjusted EBITDA**

Financial *Information*



(dollars in thousands, except per share data)	2016	2015	% Change
Total revenues	$4,170,077	$2,779,541	50.0
Net revenue*	$3,041,876	$2,499,349	21.7
Operating income	$573,382	$534,107	7.4
Net income attributable to TSYS common shareholders	$319,638	$364,044	(12.2)
Basic earnings per share from continuing operations attributable to TSYS common shareholders	$1.74	$1.97	(11.6)
Diluted earnings per share from continuing operations attributable to TSYS common shareholders	$1.73	$1.96	(11.5)
Adjusted EBITDA*	$1,040,551	$833,920	24.8
Adjusted EPS*	$2.81	$2.46	14.5

*Net revenue, adjusted EBITDA and adjusted earnings per share are non-GAAP financial measures, which are explained further on pages 28-30 of this report.

Dear Shareholders and Friends,

It's not often that a company with more than 30 years of experience has a year of firsts, but I would say 2016 was just that for TSYS.

It was the first year TransFirst® became part of TSYS, initiating an integration process that will last through 2017. This coming together of TSYS, TransFirst and Netspend® is allowing our company to truly function as an end-to-end, trusted provider in payments, with a strong foundation that includes issuer, merchant and prepaid solutions all under one roof.

As a result, we are aligning three business cultures into one — one that's stronger in unison, building on our history as a gold-standard service company while incorporating a strong client focus and emphasis on organic growth. We feel there's a tremendous opportunity to share knowledge and drive even stronger integration between our business segments in the coming year.

It was also the first year with Pam Joseph as part of our leadership team. She joined us in May as president and chief operating officer, bringing with her more than 30 years of payments and banking experience, a track record of success, and a sharp focus on growth. Pam previously served as vice chairman of U.S. Bancorp®'s payment services division and chairman and chief executive officer of Elavon®. She has also been recognized as one of the Most Influential Women in Payments by *PaymentsSource* and one of The Most Powerful Women in Banking® by *American Banker*.

It was a year full of firsts in other ways, too. There was new, unprecedented attention given to the prepaid space by everyone from regulators to loyal consumers. It was the first full year of the EMV® liability shift, where we pulled together as an industry to help merchants and issuers through the transition. Money, like music and movies, continued to 'go digital.' We saw uncharted growth in mobile payments, with 24 percent of all mobile-phone owners reporting having made a payment with their smartphones.* For those who remain unimpressed, remember that it took credit cards 20 years to hit 3 percent penetration, which then grew to 50 percent in the following three decades!

*Federal Reserve, March 2016: "Consumers and Financial Services"

As we look toward the remainder of 2017, we're a distinctly stronger company than we were at this time last year. Throughout this letter, I'd like to share with you where we're focused, where we're making investments, and how we've adapted to massive transformation and disruption within our industry. We're keen to not only focus on looking beyond our clients' needs today, but also at outpacing the industry at large tomorrow, to better navigate our competitive landscape.

Our leadership team ardently believes strong companies win because of their ability to adapt and transform. There's a blooming ecosystem in payments, with countless shoots sprouting. And it's crucial to explore enough new products and services to quickly figure out which ones will win. But as always, it's striking the balance between retaining your efficiency and continuing to invest in the businesses and technology that will take you into the future. It's knowing where the market is headed and working closely with clients to offer them a new product or solution before they know they want it.

Winning in the payments world looks different these days. Instead of focusing on the number of transactions we touch, we're thinking about what happens before and after those transactions for a better customer experience. Due to technology enhancements we're making, development can take moments instead of months. And instead of seeing ourselves as a processor, we view our company as a trusted advisor that enables the entire payments ecosystem to make life better for consumers.

While change is ever-present in our industry and our company, our commitment to growth and performance for our shareholders has remained the same. We are especially proud to be recognized by *Fortune* magazine as one of their Fastest-Growing Companies of 2016 based on revenue, profits and stock return.

Let's take a look at the numbers from 2016.

Financials

In 2016, we operated from a position of financial strength by keeping a sharp focus on our business operations and expense control. This strong financial performance was due to a roster full of healthy clients with recurring revenue from long-term agreements and our strategic deployment of capital.

Revenue and Income: Total revenues were $4.2 billion, resulting in double-digit growth of 50.0 percent. Net revenue* was $3 billion, up 21.7 percent.

Earnings Per Share (EPS): Basic EPS from continuing operations was $1.74, a decrease of 11.6 percent. Diluted EPS from continuing operations was $1.73, a decrease of 11.5 percent. Adjusted EPS* was $2.81, an increase of 14.5 percent.

Adjusted EBITDA*: Adjusted EBITDA was $1 billion, an increase of 24.8 percent.

Revenue Diversification: We have a powerful story to tell when it comes to revenue diversification. In 2009, 83 percent of our net revenue* came from issuing, with merchant services trailing at 17 percent. In 2016, our net revenue* is more evenly distributed, with issuing contributing 49 percent, merchant at 29 percent and prepaid solutions at 22 percent. This is proof that our efforts at diversification are working. From modernizing our technology platforms, to taking advantage of cloud-based computing and data analytics, to finding new opportunities to cross-sell and realize efficiencies from our three businesses, we're capitalizing on opportunities that were not available before.

Let's take a look at key highlights from our three pillars of strength — issuing, merchant and prepaid.

*Net revenue, adjusted EBITDA and adjusted earnings per share are non-GAAP financial measures, which are explained further on pages 28-30 of this report.

Issuer Solutions

A significant event in this segment was that effective January 1, 2017, we combined our North America and International segments into a single unit called Issuer Solutions. This consolidation is in line with our other recent efforts to bring technology, implementation and issuing product teams together across these two segments. Combining our management teams and financial reporting will create a more streamlined, efficient and collaborative business.

Last year we landed new issuing clients such as Virgin Money®, as well as a number of renewals including BBVA Compass®, Swisscard, Rabobank® and many more. We feel there's no better testament to our leadership and service in this marketplace than to receive the continued endorsement of an existing client.

One of the biggest initiatives we've been undertaking is enhancing the breadth and agility of our issuer product roadmap. We know that delivering solutions to the market quicker brings more value to clients in the long term. Our issuing clients have told us that one of the strongest measures of partnership is thought leadership and knowing they can turn to us to decrease the amount of time they spend looking for 'the next big offering' they'll need to grow their portfolios. It's important to be able to bring them a variety of payments products, all from one known partner.

Leading this product enhancement effort is Karim Ahmad, head of global product and innovation, who joined us last August. Having worked closely with TSYS on strategy and product delivery in his previous role at Bain & Company®, he has been working in lockstep with Chief Information Officer Patty Watson and our Issuer Solutions client teams to create the roadmap and collectively improve the product offerings we can provide to our clients.

Today we see the biggest opportunity in creating an enriched, value-added product set for our clients. And the single most important area of focus is what we can do pre- and post-transaction, creating customer benefits outside of the purchases themselves. This includes aspects of fraud, data analytics and loyalty, as well as digitizing customer interactions. We'll draw on the massive potential of application programming interfaces (APIs), opening up our business to innovation, creativity and collaboration with clients and partners around the globe.

Merchant Solutions

After finalizing the acquisition of TransFirst in April, the remainder of 2016 was focused on integrating our two merchant businesses under the TSYS brand. At this point, the integration process is in its final stages, and we are proud to say we have a strong, stable merchant business with a position of leadership in the United States. We are thrilled with the revenue performance and future potential from this segment's partner-centric distribution model.

As such, we are pleased to announce the recent hiring of Philip McHugh, effective May 1, 2017, as president of our Merchant Solutions segment. Philip joins TSYS with more than 20 years of experience in international banking and payments, most recently serving as chief executive officer of Barclaycard® Business Solutions.

Now that we've brought the companies together and can set our sights on the future, we're looking toward our next move. That involves focusing on continued growth by expanding our partner and merchant base, for both new and existing clients. We see good growth opportunity in e-commerce and in integrated payment segments like healthcare and independent software vendor

(ISV) channels, which now represent more than 30 percent of our direct merchant business.

We're also at a unique advantage because of our distribution model, which relies on tight integration with each of our partners. This ultimately means deep long-term relationships and high client satisfaction. On the referral partner side, we have strategic partnerships with businesses that have a deep portfolio of small- to mid-sized merchant businesses. Relationships matter in this industry, and we think we are one of the strongest partners in the business. Furthermore, we continually optimize our service and support model to meet the highly specialized needs of our partners and merchants.

Lastly, we've already noticed great traction from fostering cross-enterprise opportunities by combining services from multiple TSYS business segments. Aligning our merchant segment with the TSYS brand means we offer prospects and partners not just merchant solutions, but issuing and prepaid solutions as well, for increased efficiency and comprehensive product suites.

Netspend

The potential for prepaid continues to grow. The open-loop prepaid market — which includes our general purpose reloadable products — grew at a compound annual growth rate of 16 percent to $211.5 billion in 2015, up from $100.2 billion in 2010, excluding government-sponsored programs, according to Mercator Advisory Group.

Consumers who don't have access to traditional banking services — or even those who do — have found prepaid to be a beneficial alternative, with minimal fees and flexible terms. But to call prepaid a product is to overlook its vast potential. To us, prepaid is more than a card or an account; it is a platform to empower consumers. For some, that empowerment is access to electronic payments; for others, it's more — powering apps, enabling their connected devices for commerce or facilitating payment sharing among friends.

In October, the Consumer Financial Protection Bureau® announced its final rule regarding personal financial products. 2017 will be largely focused on complying with this rule and launching new products that serve our existing customers and new audiences.

Our internal research indicates there is a segment of prepaid customers looking to move to a traditional bank account. For these customers, we will be launching a bank demand deposit account. In 2016, we piloted a small

We serve payment providers.

Issuer solutions to financial institutions, major retailers and emerging payment players

No. 1
in U.S., U.K. & Ireland
third-party credit

No. 1
in China
through our China UnionPay® venture

No. 2
in Europe
third-party credit

We serve businesses.

Solutions for merchants (from small businesses to national merchants), merchant acquirers and independent sales organizations (ISOs)

No. 6
U.S. acquirer
(based on revenue)

650,000
merchant outlets

Approximately
$121 billion
in processing volume

We serve consumers.

Prepaid program management for consumers and corporations

No. 1
in U.S. prepaid program management
(by gross dollar volume)

130,000
reload locations

4.3 million
active cards

business product for micro-businesses and sole proprietors, and we will continue to innovate for this new segment of customers. This year, we can think of no better time to draw on our experience as leaders and innovators in the prepaid space.

In Closing

It's always hard to bid farewell to colleagues that have been with the company from the beginning. This year, we have several leaders and board members who are retiring after being with us for what seems like a lifetime. And in some cases, it was a lifetime!

In December, one of our most respected and longest tenured leaders announced his decision to retire from TSYS. Bill Pruett, a 40-year veteran of TSYS, will retire as senior executive vice president effective April 1, 2017. It's no exaggeration to say that Bill has participated in, and contributed to, just about every area of our business throughout the years. He has made an enormous contribution to TSYS, and we owe him a debt of gratitude.

Upon Bill's retirement, Gaylon Jowers will lead the Issuer Solutions segment, with Allen Pettis as president of North America and Kelley Knutson as president of International, reporting to Jowers. For our newly unified Issuer Solutions segment, we will draw on the decades of experience of these leaders, both at TSYS and elsewhere, in the financial services industry. We are confident the transition process will be seamless.

This year will also mark the retirement of board members Jimmy Blanchard and Jimmy Yancey. Jimmy Blanchard, formerly chairman and chief executive officer of Synovus®, was directly responsible for TSYS' longstanding 'Culture of the Heart,' espousing doing the right thing by customers and putting people at the center of everything we do. Jimmy Yancey has been an integral part of TSYS from its earliest days, serving as chairman of both Synovus and Columbus Bank and Trust.® Both of these board members were key architects that built the foundation and culture of this great company, and both will be missed.

We have a great past. But one thing I know for certain: Our future is in fueling revenue growth and staying focused on the client. At times, this may require us to change how we've done business up until this point. We have a solid history, and we're not leaving it behind — we're taking it with us on this next step of the journey.

In the end, we believe that if you strive to be a trusted advisor in the payments space, the rest will fall into place. We are confident that our people-centric approach will serve us well into the future, and we appreciate your support and guidance as we evolve to grow in 2017 and beyond.

Sincerely,

M. Troy Woods
Chairman and Chief Executive Officer, TSYS

Board of Directors

James H. Blanchard
Chairman of the Board &
Chief Executive Officer, retired
Synovus®
Chairman, Board of Advisors
Jordan-Blanchard Capital, LLC

Kriss Cloninger III
President
Aflac® Incorporated

Walter W. Driver Jr.
Chairman-Southeast
Goldman, Sachs & Co.

Sidney E. Harris
Professor and Dean, retired
Georgia State University,
J. Mack Robinson College of Business

William M. Isaac
Senior Managing Director
FTI Consulting®
Chairman of the Board, retired
Fifth Third Bancorp
Former Chairman
FDIC

Pamela A. Joseph
President & Chief Operating Officer
TSYS

Mason H. Lampton
Chairman of the Board
Standard Concrete Products

Connie D. McDaniel
Vice President &
Chief of Internal Audit, retired
The Coca-Cola Company

Philip W. Tomlinson
Chairman of the Board &
Chief Executive Officer, retired
TSYS

John T. Turner
Private Investor

Richard W. Ussery
Chairman of the Board &
Chief Executive Officer, retired
TSYS

M. Troy Woods
Chairman of the Board &
Chief Executive Officer
TSYS

James D. Yancey
Chairman of the Board, retired
Synovus
Columbus Bank and Trust

Leadership

Executive Management
pictured on the left

Front Row, Seated

M. Troy Woods
Chairman of the Board &
Chief Executive Officer

Pamela A. Joseph
President &
Chief Operating Officer

Middle Row, Left to Right

Charles J. Harris
Senior Executive Vice President &
President, Netspend

Kelley C. Knutson
Executive Vice President &
President, International
Issuer Solutions

Back Row, Left to Right

W. Allen Pettis
Executive Vice President &
President, North America
Issuer Solutions

Ryland L. Harrelson
Executive Vice President &
Chief Human Resource Officer

Paul M. Todd
Senior Executive Vice President &
Chief Financial Officer

Gaylon Jowers Jr.
Senior Executive Vice President &
President, Issuer Solutions

G. Sanders Griffith III
Senior Executive Vice President,
General Counsel & Secretary

William A. Pruett
Senior Executive Vice President

Patricia A. Watson
Senior Executive Vice President &
Chief Information Officer

TSYS *Financial Data*

Selected Financial Data 11

Financial Overview 11

Financial Review 13

Consolidated Balance Sheets 37

Consolidated Statements of Income 38

Consolidated Statements of Comprehensive Income 39

Consolidated Statements of Cash Flows 40

Consolidated Statements of Changes in Equity 41

Notes to Consolidated Financial Statements 42

Report of Independent Registered Public Accounting Firm 82

Management's Report on Internal Control Over Financial Reporting 83

Quarterly Financial Data, Stock Price, Dividend Information 84

Stock Performance Graph 85

Selected Financial Data

The following financial data should be read in conjunction with the Consolidated Financial Statements and Notes thereto and Financial Review sections of the Annual Report. The historical trends in Total System Services, Inc.'s (TSYS' or the Company's) results of operations and financial position over the last five years are presented below.

	Years Ended December 31,				
(in thousands, except per share data)	**2016**	2015	2014	2013	2012
Income Statement Data:					
Total revenues	**$4,170,077**	2,779,541	2,446,877	2,064,305	1,793,557
Operating income	**$ 573,382**	534,107	431,640	382,500	354,969
Income from continuing operations, net of tax	**$ 325,972**	367,630	280,751	254,542	248,928
Income from discontinued operations, net of tax	**—**	1,411	48,655	2,055	995
Net income	**$ 325,972**	369,041	329,406	256,597	249,923
Net income attributable to noncontrolling interests	**(6,334)**	(4,997)	(6,534)	(11,847)	(5,643)
Net income attributable to TSYS common shareholders	**$ 319,638**	364,044	322,872	244,750	244,280
Basic earnings per share (EPS)* attributable to TSYS common shareholders:					
Income from continuing operations	**$ 1.74**	1.97	1.48	1.31	1.31
Gain (loss) from discontinued operations	**—**	0.01	0.26	(0.01)	(0.02)
Net income	**$ 1.74**	1.98	1.73	1.30	1.30
Diluted EPS* attributable to TSYS common shareholders:					
Income from continuing operations	**$ 1.73**	1.96	1.47	1.30	1.31
Gain (loss) from discontinued operations	**—**	0.01	0.25	(0.01)	(0.02)
Net income	**$ 1.73**	1.97	1.72	1.29	1.29
Cash dividends declared per share	**$ 0.40**	0.40	0.40	0.40	0.40

* *Basic and diluted EPS amounts for continuing operations and net income may not total due to rounding.*

	As of December 31,				
(in thousands)	**2016**	2015	2014	2013	2012
Balance Sheet Data:					
Total assets	**$6,366,177**	3,877,895	3,725,652	3,677,077	2,023,129
Obligations under long-term borrowings and capital leases, excluding current portion	**3,313,276**	1,377,541	1,397,483	1,426,260	190,854

Financial Overview

TSYS' revenues are derived from providing payment processing, merchant services and related payment services to financial and nonfinancial institutions, generally under long-term processing contracts. The Company also derives revenues by providing general-purpose reloadable (GPR) prepaid debit cards and payroll cards and alternative financial services to underbanked and other consumers. The Company's services are provided through four operating segments: North America Services, International Services, Merchant Services and Netspend.

Through the Company's North America Services and International Services segments, TSYS processes information through its cardholder systems to financial and nonfinancial institutions throughout the United States and internationally. The Company's North America Services segment provides these services to clients in the United States, Canada, Mexico and the Caribbean. The Company's International Services segment provides services to clients in Europe, India, Middle East, Africa, Asia Pacific and Latin America. The Company's Merchant Services segment provides merchant services to merchant acquirers and merchants mainly in the United States. The Company's Netspend segment provides services to consumers in the United States.

TSYS acquires other companies as part of its strategy for growth. In April 2016, the Company completed the acquisition of all the outstanding stock of TransFirst Holdings Corp. (TransFirst). TransFirst is part of the Merchant Services segment. Refer to Note 23 in the Notes to Consolidated Financial Statements for more information about the acquisition of TransFirst.

The following table sets forth each segment's revenues as a percentage of the Company's total revenues:

	Years Ended December 31,		
	2016	2015	2014
Merchant Services	**44%**	20%	21%
North America Services	**32**	47	45
Netspend	**16**	21	19
International Services	**8**	12	15
Total revenues	**100%**	100%	100%

Due to the somewhat seasonal nature of the payments industry, TSYS' revenues and results of operations have generally increased in the fourth quarter of each year because of increased transaction and authorization volumes during the traditional holiday shopping season. Furthermore, growth or declines in card and merchant portfolios of existing clients, the conversion of cardholder and merchant accounts of new clients to the Company's processing platforms, the receipt of fees for early contract termination and the loss of cardholder and merchant accounts either through purges or deconversions impact the results of operations from period to period.

Another factor which may affect TSYS' revenues and results of operations from time to time is consolidation in the financial services or retail industries either through the sale, by a client, of its business, its card portfolio or a segment of its accounts to a party which processes cardholder or merchant accounts internally or uses another third-party processor. A change in the economic environment in the retail sector, or a change in the mix of payments between cash and cards could favorably or unfavorably impact TSYS' financial position, results of operations and cash flows in the future.

TSYS' reported financial results will also be impacted by significant shifts in currency conversion rates. TSYS does not view foreign currency as an economic event for the Company but as a financial reporting issue. Because changes in foreign currency exchange rates distort the operating growth rates, TSYS discloses the impact of foreign currency translation on its financial performance.

A significant amount of the Company's revenues are derived from long-term contracts with large clients. Processing contracts with large clients, representing a significant portion of the Company's total revenues, generally provide for discounts on certain services based on the size and activity of clients' portfolios. Therefore, revenues and the related margins are influenced by the client mix relative to the size of client portfolios, as well as the number and activity of individual cardholder or merchant accounts processed for each client.

Also impacting revenues is the impact of TransFirst. TransFirst's results are part of the Merchant Services segment and are reported gross, which includes amounts paid for interchange and assessments, due to TransFirst's relationship with its customers.

Regulation

Government regulation affects key areas of TSYS' business, in the U.S. as well as internationally. TSYS, along with the rest of the financial services industry, continues to experience increased legislative and regulatory scrutiny, including the enactment of additional legislative and regulatory initiatives such as the Dodd-Frank Wall Street Reform and Consumer Protection Act (Financial Reform Act). This legislation, which provides for sweeping financial regulatory reform, may have a significant and negative impact on the Company and its clients, which could impact TSYS' earnings through fee reductions, higher costs (both regulatory and implementation) and new restrictions on operations. The Financial Reform Act may also impact the competitive dynamics of the financial services industry in the U.S. by more adversely impacting large financial institutions, some of which are TSYS clients, and by adversely impacting the competitive position of U.S. financial institutions in comparison to foreign competitors in certain businesses.

The Financial Reform Act created a new Consumer Financial Protection Bureau ("CFPB") with responsibility for regulating consumer financial products and services and enforcing most federal consumer protection laws in the area of financial services, including consumer credit and the prepaid card industry. For example, the CFPB has promulgated a new rule regarding prepaid financial products, which, among other things, establishes new disclosure requirements specific to prepaid accounts, eliminates certain fees that may currently be imposed on prepaid accounts, and effectively eliminates the ability of a prepaid card provider such as the Company's Netspend business to offer courtesy overdraft protection on prepaid accounts. The new rule is scheduled to become effective on October 1, 2017. Similarly, other future actions of the CFPB may make payment card or product transactions generally less attractive to card issuers, acquirers, consumers and merchants by further regulatory disclosures, payment card practices, fees, routing and other matters with respect to credit, debit and prepaid cards, and thus negatively impact the Company's business.

Financial Review

This Financial Review provides a discussion of critical accounting policies and estimates, related party transactions and off-balance sheet arrangements. This Financial Review also discusses the results of operations, financial position, liquidity and capital resources of TSYS and outlines the factors that have affected its recent earnings, as well as those factors that may affect its future earnings. The accompanying Consolidated Financial Statements and related Notes are an integral part of this Financial Review and should be read in conjunction with it.

Critical Accounting Policies and Estimates

Risk factors that could affect the Company's future operating results and cause actual results to vary materially from expectations are listed in the Company's forward-looking statements. Negative developments in these or other risk factors could have a material adverse effect on the Company's financial position, results of operations and cash flows.

TSYS' financial position, results of operations and cash flows are impacted by the accounting policies the Company has adopted. Refer to Note 1 in the Consolidated Financial Statements for more information on the Company's basis of presentation and a summary of significant accounting policies.

Management believes that the following accounting policies are the most critical to fully understand and evaluate the Company's results. Within each critical policy, the Company makes estimates that require management's subjective or complex judgments about the effects of matters that are inherently uncertain.

A summary of the Company's critical accounting estimates applicable to the reportable operating segments follows:

Allowance for Doubtful Accounts and Billing Adjustments

The Company estimates the allowance for doubtful accounts. When estimating the allowance, the Company takes into consideration such factors as its knowledge of the financial position of specific clients, the industry and size of its clients, the overall composition of its accounts receivable aging, prior experience with specific customers of accounts receivable write-offs and prior history of allowances in proportion to the overall receivable balance. This analysis includes an ongoing and continuous communication with its largest clients and those clients with past due balances. A financial decline of any one of the Company's large clients could have a material adverse effect on collectability of receivables and thus the adequacy of the allowance for doubtful accounts. If the actual collectability of clients' accounts is not consistent with the Company's estimates, bad debt expense, which is recorded in selling, general and administrative expenses, may be materially different than was initially recorded. The Company's experience and extensive data accumulated historically indicates that these estimates have proven reliable over time.

The Company estimates allowances for billing adjustments for potential billing discrepancies. When estimating the allowance for billing adjustments, the Company considers its overall history of billing adjustments, as well as its history with specific clients and known disputes. If the actual adjustments to clients' billing are not consistent with the Company's estimates, billing adjustments, which are recorded as a reduction of revenues in the Company's Consolidated Statements of Income, may be materially different than was initially recorded. The Company's experience and extensive data accumulated historically indicates that these estimates have proven reliable over time. The allowance for doubtful accounts and billing adjustments on the Company's Consolidated Balance Sheet as of December 31, 2016 was $4.8 million.

Contract Acquisition Costs

In evaluating contract acquisition costs for recoverability, expected cash flows are estimated by management should events indicate a loss may have been triggered. The Company evaluates the carrying value of contract acquisition costs associated with each customer for impairment on the basis of whether these costs are fully recoverable from either contractual minimum fees (conversion costs) or from expected undiscounted net operating cash flows of the related contract (cash incentives paid). The determination of expected undiscounted net operating cash flows requires management to make estimates. If the actual cash flows are not consistent with the Company's estimates, a material impairment charge may result and net income may be materially different than was initially recorded.

These costs may become impaired with the loss of a contract, the financial decline of a client, termination of conversion efforts after a contract is signed, or diminished prospects for current clients. Note 10 in the Consolidated Financial Statements contains a discussion of contract acquisition costs. The net carrying value of contract acquisition costs on the Company's Consolidated Balance Sheet as of December 31, 2016 was $235.7 million.

Software Development Costs

In evaluating software development costs for recoverability, expected cash flows are estimated by management should events indicate a loss may have been triggered. The Company evaluates the unamortized capitalized costs of software development, the impairment of which is determined by expected undiscounted future operating cash flows of the software as compared to the carrying amount of the software product. The amount by which the unamortized software development costs exceed the lower of the carrying amount or fair value is written off in the period that such determination is made. If the actual cash flows are not consistent with the Company's estimates, a material write-off may result and net income may be materially different than was initially recorded. Assumptions and estimates about future cash flows and remaining useful lives of software are complex and subjective. They can be affected by a variety of factors, including industry and economic trends, changes in the Company's business strategy and changes in the internal forecasts. Note 8 in the Consolidated Financial Statements contains a discussion of internally developed software costs. The net carrying value of internally developed software on the Company's Consolidated Balance Sheet as of December 31, 2016 was $121.4 million.

Acquisitions — Purchase Price Allocation

TSYS' purchase price allocation methodology requires the Company to make assumptions and to apply judgment to estimate the fair value of acquired assets and liabilities. TSYS estimates the fair value of assets and liabilities based upon appraised values, the carrying value of the acquired assets and widely accepted valuation techniques, including the cost approach, discounted cash flows and market multiple analyses. Management determines the fair value of fixed assets and identifiable intangible assets such as developed technology or customer relationships, and any other significant assets or liabilities. TSYS adjusts the purchase price allocation, as necessary, up to one year after the acquisition closing date as TSYS obtains more information regarding asset valuations and liabilities assumed. Unanticipated events or circumstances may occur which could affect the accuracy of the Company's fair value estimates, including assumptions regarding industry economic factors and business strategies, and may result in an impairment or a new allocation of purchase price.

TSYS may allocate part of the purchase price of future acquisitions to contingent consideration as required by generally accepted accounting principles (GAAP) for business combinations. The fair value calculation of contingent consideration will involve a number of assumptions that are subjective in nature and which may differ significantly from actual results. TSYS may experience volatility in its earnings to some degree in future reporting periods as a result of these fair value measurements.

Goodwill

In evaluating for impairment, discounted net cash flows for future periods are estimated by management. In accordance with the provisions of GAAP, goodwill is required to be tested for impairment at least annually. The combination of the income approach, utilizing the discounted cash flow (DCF) method, and the market approach, utilizing readily available market valuation multiples, is used to estimate the fair value. Under the DCF method, the fair value of the asset reflects the present value of the projected earnings that will be generated by each asset after taking into account the revenues and expenses associated with the asset, the relative risk that the cash flows will occur, the contribution of other assets, and an appropriate discount rate to reflect the value of invested capital. Cash flows are estimated for future periods based on historical data and projections provided by management. If the actual cash flows are not consistent with the Company's estimates, a material impairment charge may result and net income may be materially different than was initially recorded. Note 6 in the Consolidated Financial Statements contains a discussion of goodwill. The net carrying value of goodwill on the Company's Consolidated Balance Sheet as of December 31, 2016 was $3.3 billion.

Long-lived Assets and Intangibles

In evaluating long-lived assets and intangibles for recoverability, expected undiscounted net operating cash flows are estimated by management. The Company reviews long-lived assets, such as property and equipment and intangibles subject to amortization, including contract acquisition costs and certain computer software, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the actual cash flows are not consistent with the Company's estimates, a material impairment charge may result and net income may be materially different than was initially recorded. The Company did not recognize any impairment charges during the years ended December 31, 2016, 2015 and 2014.

Revenue Recognition

The Company recognizes revenues in accordance with the provisions of GAAP, which sets forth guidance as to when revenue is realized or realizable and earned when all of the following criteria are met: (1) persuasive evidence of an

arrangement exists; (2) delivery has occurred or services have been performed; (3) the seller's price to the buyer is fixed or determinable; and (4) collectability is reasonably assured.

The Company evaluates its contractual arrangements that provide services to clients through a bundled sales arrangement in accordance with the provisions of GAAP to address the determination of whether an arrangement involving more than one deliverable contains more than one unit of accounting and how the arrangement consideration should be measured and allocated to the separate units of accounting.

A deliverable in multiple element arrangements indicates any performance obligation on the part of the seller and includes any combination of obligations to perform different services, grant licenses or other rights. Revenue is allocated to the separate units of accounting in a multiple element arrangement based on relative fair values, provided the delivered element has standalone value to the customer and delivery of any undelivered items is probable and substantially within the Company's control. Evidence of fair value must be objective and reliable. An item has value to the customer on a standalone basis if it is sold separately by any vendor or the customer could resell the deliverable on a standalone basis.

As TSYS' business and service offerings change in the future, the determination of the number of deliverables in an arrangement and related units of accounting and future pricing practices may result in changes in the estimates of vendor-specific objective evidence of selling price (VSOE) and estimates of the standalone selling price (ESP), which may change the ratio of fees allocated to each service or unit of accounting in a given customer arrangement. There were no material changes or impact to revenue in revenue recognition during the years ended December 31, 2016, 2015 and 2014 due to any changes in the determination of the number of deliverables in an arrangement, units of accounting, or estimates of VSOE or ESP for existing contractual arrangements.

Cardholders' Reserve

The Company is exposed to losses due to cardholder fraud, payment defaults and other forms of cardholder activity as well as losses due to non-performance of third parties who receive cardholder funds for transmittal to the Issuing Banks (banks that issue Mastercard International or Visa USA, Inc. branded cards to customers). The Company establishes a reserve for the losses it estimates will arise from processing customer transactions, debit card overdrafts, chargebacks for unauthorized card use and merchant-related chargebacks due to non-delivery of goods or services. These reserves are established based upon historical loss and recovery rates and cardholder activity for which specific losses can be identified. The cardholders' reserve was $10.5 million as of December 31, 2016. The provision for cardholder losses is included in cost of services in the Consolidated Statements of Income and in other current liabilities in the Consolidated Balance Sheets. The Company regularly updates its estimate as new facts become known and events occur that may impact the settlement or recovery of losses.

Provision for Merchant Losses

The Company has potential liability for losses resulting from disputes between a cardholder and a merchant that arise as a result of, among other things, the cardholder's dissatisfaction with merchandise quality or merchant services. Such disputes may not be resolved in the merchant's favor. In these cases, the transaction is "charged back" to the merchant, which means the purchase price is refunded to the customer by the card-issuing bank and charged to the merchant. If the merchant is unable to fund the refund, TSYS must do so due to the indemnities it has with the sponsoring bank. TSYS also bears the risk of reject losses arising from the fact that TSYS collects fees from its merchants after the monthly billing period. If the merchant has gone out of business during such period, TSYS may be unable to collect such fees. TSYS maintains cash deposits or requires the pledge of a letter of credit from certain merchants, generally those with higher average transaction size where the card is not present when the charge is made or the product or service is delivered after the charge is made, in order to offset potential contingent liabilities such as chargebacks and reject losses that would arise if the merchant went out of business. Most chargeback and reject losses are charged to cost of services as they are incurred. However, the Company also maintains a provision against losses, including major fraud losses, which are both less predictable and involve larger amounts. The loss provision is established using historical loss rates, applied to recent bankcard processing volume. As of December 31, 2016, the Company had a merchant loss provision in the amount of $2.0 million.

Transaction Processing Provisions

The Company records estimates to provide for contract contingencies (performance penalties) and processing errors. A significant number of the Company's contracts with large clients contain service level agreements which can result in TSYS incurring performance penalties if contractually required service levels are not met. When estimating these accruals, the Company takes into consideration such factors as the prior history of performance penalties and processing errors incurred, actual contractual penalties inherent in the Company's contracts, progress towards milestones, and known processing errors not covered by insurance. If the actual performance penalties incurred are not consistent with the Company's estimates, performance penalties and processing errors, which are recorded in cost of services, may be materially different than were initially recorded. The Company's experience and extensive data accumulated historically indicate that these estimates have proven reliable over time. Transaction processing provisions are included in other current liabilities in the Consolidated Balance Sheets. As of December 31, 2016, the Company had a transaction processing provision in the amount of $2.9 million.

Income Taxes

In calculating its effective tax rate, the Company makes decisions regarding certain tax positions, including the timing and amount of deductions and allocations of income among various tax jurisdictions. The Company has various tax filing positions, including the timing and amount of deductions and credits, the establishment of reserves for audit matters and the allocation of income among various tax jurisdictions.

The Company makes estimates as to the amount of deferred tax assets and liabilities and records valuation allowances to reduce its deferred tax assets to reflect the amount that is more likely than not to be realized. The Company considers projected future taxable income and ongoing tax planning strategies in assessing the need for the valuation allowance. Actual results may differ from the Company's estimates. If the Company realizes a deferred tax asset or the Company was unable to realize a net deferred tax asset, an adjustment to the deferred tax asset would increase or decrease earnings, respectively, in the period the difference is recognized.

Off-Balance Sheet Arrangements

Operating Leases

As a method of funding its operations, TSYS employs noncancelable operating leases for computer equipment, software and facilities. These leases allow the Company to use the latest technology while avoiding the risk of ownership. Neither the assets nor obligations related to these leases are included on the balance sheet. Refer to Notes 1 and 15 in the Consolidated Financial Statements for further information on operating lease commitments.

Contractual Obligations

The Company has long-term obligations which consist of required minimum future payments under contracts with the Company's distributors and other service providers.

Recent Accounting Pronouncements

In December 2016, the FASB issued ASU 2016-19 "*Technical Corrections*," which represent changes to clarify, correct errors or make minor improvements to the Accounting Standards Codification. Most of the amendments in this Update do not require transition guidance and are effective upon issuance of this Update. Six amendments in this Update clarify guidance or correct references in the Accounting Standards Codification that could potentially result in changes in current practice because of either misapplication or misunderstanding of current guidance. Early adoption is permitted for the amendments that require transition guidance. The Company will be impacted by the amendment to Subtopic 350-40, "*Intangibles — Goodwill and Other — Internal-Use Software*," which adds a reference to guidance to use when accounting for internal-use software licensed from third parties that is within the scope of Subtopic 350-40. The transition guidance for that amendment is the same as the transition guidance in ASU 2015-05, "*Intangibles — Goodwill and Other — Internal-Use Software (Subtopic 350-40): Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*," to which the amendment relates. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In November 2016, the FASB issued ASU 2016-18 "*Statement of Cash Flows (Topic 230): Restricted Cash*," which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. The ASU is effective for the Company on January 1,

2018. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In October 2016, the FASB issued ASU 2016-16 "*Income Taxes (Topic 740): Intra-Equity Transfers of Assets Other Than Inventory,*" which requires that an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs and eliminates the exception for an intra-entity transfer of an asset other than inventory. The ASU is effective for the Company on January 1, 2018. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In August 2016, the FASB issued ASU 2016-15 "*Statement of Cash Flow (Topic 230): Classification of Certain Receipts and Cash Payments*," which clarifies how entities should classify certain cash receipts and cash payments on the statement of cash flows. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flow. The ASU is effective for the Company on January 1, 2018. Early adoption is permitted by all entities. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In March 2016, the FASB issued ASU 2016-09 "*Improvements to Employee Share-Based Payment Accounting*," which simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures and statutory tax withholding requirements, as well as classification in the statement of cash flows. The ASU is effective for fiscal years and interim periods within those years beginning after December 15, 2016. The adoption of this ASU will result in excess tax benefits and deficiencies associated with share-based payments being recorded on the income statement at the time they are deducted on the income tax return instead of being recorded in additional paid-in capital. The excess tax benefits are recorded along with other income tax cash flows as an operating activity in the statement of cash flows. The Company will adopt this ASU on January 1, 2017. The Company has reviewed this standard, noting adoption of the standard will result in a benefit to the income tax provision and an immaterial dilutive effect on diluted EPS.

In March 2016, the FASB issued ASU 2016-07 "*Simplifying the Transition to the Equity Method of Accounting*," which simplifies the equity method of accounting by eliminating the requirement to retrospectively apply the equity method to an investment that subsequently qualifies for such accounting as a result of an increase in the level of ownership interest or degree of influence. The ASU further requires that unrealized holding gains or losses in accumulated other comprehensive income related to an available-for-sale security that becomes eligible for the equity method be recognized in earnings as of the date on which the investment qualifies for the equity method. The guidance in the ASU is effective for fiscal years and interim periods within those years beginning after December 15, 2016. Early adoption is permitted for all entities. Entities are required to apply the guidance prospectively to increases in the level of ownership interest or degree of influence occurring after the ASU's effective date. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In February 2016, the FASB issued ASU 2016-02 *"Leases (Topic 842)."* ASU 2016-02 introduces a lessee model that brings most leases on the balance sheet and aligns many of the underlying principles of the new lessor model with those in the FASB's new revenue recognition standard. The new standard establishes a right-of-use model (ROU) that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than twelve months. Leases will be classified as finance or operating, with classification affecting the pattern and classification of expense recognition in the income statement.

The new guidance will be effective for the Company on January 1, 2019 with early adoption permitted. The Company expects to adopt the new standard on its effective date. The Company expects the standard will have a material effect on its financial statements. At December 31, 2016, the Company had approximately $472.8 million of operating leases that would be recorded on the balance sheet if the standard was already effective. The Company has not determined the remaining effect on its ongoing financial reporting for adoption of this ASU. The Company expects to elect all of the available practical expedients on adoption.

In January 2016, the FASB issued ASU 2016-01 "*Recognition and Measurement of Financial Assets and Financial Liabilities,*" which amends the guidance in U.S. GAAP on the classification and measurement of financial instruments. The ASU significantly revises an entity's accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amends certain disclosure requirements associated with the fair value of financial instruments. The new standard is effective for fiscal years and interim periods within those years beginning after December 15, 2017. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

Recent Revenue Recognition Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09 "*Revenue from Contracts with Customers,*" which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective.

The FASB has issued several additional ASUs since this time that add additional clarification to certain issues existing after the original ASU was released. All of the new standards are effective for the Company on January 1, 2018, with early adoption permitted no sooner than January 1, 2017. The standards permit the use of either the retrospective or cumulative effect transition method. The Company has not determined the effect on its ongoing financial reporting for adoption of these ASUs.

The Company is reviewing the requirements of the new revenue standard, and amendments described below, while following activities of the FASB and the American Institute of Certified Public Accountants (AICPA) for certain interpretive guidance applicable to IT outsourcers and payment processors. The Company is evaluating customer contracts under the new standard for each type of significant revenue stream (and related costs) identified to evaluate differences from current accounting. TSYS plans to adopt ASU 2014-09, as well as all other clarifications and technical guidance issued by the FASB and AICPA related to this new revenue standard, on January 1, 2018 using the modified retrospective transition method. Such adoption method may result in an adjustment to the opening balance of retained earnings (or other appropriate components of net assets in the statement of financial position) for the cumulative effect, if any, of applying the standard to contracts that are not completed on January 1, 2018. Under the modified retrospective transition method, the Company is required to disclose the impact of changes to financial statement line items due to the application of the new revenue standard, including an explanation of the reasons for any significant changes.

The new standard could change the amount and timing of revenue and costs for certain significant revenue streams, increase areas of judgment and related internal controls requirements, change the presentation of revenue for certain contract arrangements and possibly require changes to the Company's software systems to assist in both internally capturing accounting differences and externally reporting such differences through enhanced disclosure requirements.

In March 2016, the FASB issued ASU 2016-08 *"Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net),"* which improves the operability and understandability of the implementation guidance on principal versus agent considerations by providing indicators as to which party controls the good or service provided to a customer (the principal).

In April 2016, the FASB issued ASU 2016-10 "*Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing,*" which clarifies two aspects of Topic 606: identifying performance obligations and the licensing implementation guidance, while retaining the related principles for those areas.

In May 2016, the FASB issued ASU 2016-12 "*Revenue from Contracts with Customers (Topic 606): Narrow Scope Improvements and Practical Expedients,*" which affects only the following narrow aspects of Topic 606: Assessing the Collectability Criterion; Presentation of Sales and Other Taxes Collected from Customers; Noncash Consideration; Contract Modification at Transition; Completed Contracts at Transition; and Technical Correction.

In December 2016, the FASB issued ASU 2016-20 "*Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers,*" which affects only the following narrow aspects of Topic 606: Disclosure of Remaining Performance Obligations as it relates to entities such as processors which may not be required to estimate revenue under ASU 2014-09 due to direct allocation of variable consideration; Disclosure of Prior-Period Performance Obligations; Loan Guarantee Fees; Contract Costs — Impairment Testing; Contract Costs — Interaction of Impairment Testing with Guidance in Other Topics; Provisions for Losses on Construction-Type and Production Type Contracts; Contracts within the scope of Topic 944 (insurance)are excluded from the scope of Topic 606; Contract Modifications; Contract Asset versus Receivable; Refund Liability; Advertising Costs; Fixed-Odds Wagering Contracts in the Casino Industry.

Results of Operations

Revenues

The Company generates revenues by providing transaction processing and other payment-related services. The Company's pricing for transactions and services is complex. Each category of revenue has numerous fee components depending on the types of transactions processed or services provided. TSYS reviews its pricing and implements pricing changes on an ongoing basis. In addition, standard pricing varies among its regional businesses, and such pricing can be customized further for customers through tiered pricing of various thresholds for volume activity. TSYS' revenues are based upon transactional

information accumulated by its systems or reported by its customers. The Company's revenues are impacted by currency translation of foreign operations, as well as doing business in the current economic environment.

The Company reviews revenue performance on a net revenue basis which is a non-GAAP measure. Net revenue is defined as total revenues less reimbursable items, as well as, merchant acquiring interchange and assessment fees charged by the card associations or payment networks that are recorded by TSYS as expense. The Company has included reimbursements received for out-of-pocket expenses as revenues and expenses. The largest reimbursable expense items for which TSYS is reimbursed by clients are postage and network association fees. The Company's reimbursable items are impacted with changes in postal rates and changes in the volumes of mailing activities by its clients. Reimbursable items for the year ended December 31, 2016 were $259.5 million, a decrease of $20.6 million or 7.4%, compared to $280.2 million for the same period last year. Reimbursable items for the year ended December 31, 2015 increased $26.3 million, or 10.4%, compared to $253.9 million for the same period in 2014. Interchange and assessment expenses related to the TransFirst business were $868.7 million for the year ended December 31, 2016.

TSYS' revenues in its North America Services and International Services segments are influenced by several factors, including volumes related to accounts on file (AOF) and transactions. TSYS estimates that approximately 49.4% of these segments' net revenue is AOF and transaction volume driven. The remaining 50.6% of net revenue is not AOF and transaction volume driven, and is derived from production and optional services TSYS considers to be value added products and services, custom programming and licensing arrangements.

TSYS' revenues in its Merchant Services segment are influenced by several factors, including volumes related to transactions, dollar sales volume, value added services, monthly statement fees, compliance fees and miscellaneous services.

TSYS' revenues in its Netspend segment primarily consist of a portion of the service fees and interchange revenues received by Netspend's prepaid card Issuing Banks in connection with the programs managed by Netspend.

A summary of the consolidated financial highlights is provided below:

	Years Ended December 31,			Percent Change	
(in thousands, except per share data)	**2016**	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Total revenues	**$4,170,077**	2,779,541	2,446,877	**50.0 %**	13.6 %
Net revenue[1]	**$3,041,876**	2,499,349	2,192,978	**21.7**	14.0
Operating income	**$ 573,382**	534,107	431,640	**7.4**	23.7
Net income attributable to TSYS common shareholders	**$ 319,638**	364,044	322,872	**(12.2)**	12.8
Basic earnings per share (EPS) attributable to TSYS common shareholders[2]	**$ 1.74**	1.98	1.73	**(12.0)**	14.1
Diluted EPS attributable to TSYS common shareholders[2]	**$ 1.73**	1.97	1.72	**(11.8)**	14.2
Adjusted earnings before interest, taxes, depreciation and amortization (Adjusted EBITDA)[3]	**$1,040,551**	833,920	712,267	**24.8**	17.1
Adjusted EPS[4] from continuing operations	**$ 2.81**	2.46	1.96	**14.5**	25.5
Cash flows from operating activities	**$ 717,909**	600,194	560,201	**19.6**	7.1
Free cash flow[5]	**$ 575,336**	396,879	324,278	**45.0**	22.4

Refer to the reconciliation of GAAP to non-GAAP measures later in this section.

1 *Net revenue is total revenues less reimbursable items (such as postage), as well as, merchant acquiring interchange and assessment fees charged by the card associations or payment networks that are recorded by TSYS as expense.*

2 *Basic and diluted EPS is computed based on the two-class method in accordance with the guidance under GAAP. Refer to Note 25 in the Consolidated Financial Statements for more information on EPS.*

3 *Adjusted EBITDA is net income excluding equity in income of equity investments, nonoperating income/(expense), income taxes, depreciation, amortization and share-based compensation expenses and other items.*

4 *Adjusted EPS is adjusted earnings divided by weighted average shares outstanding used for basic EPS calculations. Adjusted earnings is net income excluding the after-tax impact of share-based compensation expenses, amortization of acquisition intangibles and other items.*

5 *Free cash flow is net cash provided by operating activities less capital expenditures.*

Total revenues increased $1.4 billion for the year ended December 31, 2016, compared to the year ended December 31, 2015, which increased $332.7 million compared to the year ended December 31, 2014. The increase in total revenues for the year ended December 31, 2016, as compared to 2015 is primarily the result of the acquisition of TransFirst in April 2016. The impact of the acquisition on total revenues was $1.2 billion. The increases in revenues for 2016 and 2015 include decreases of $42.5 million and $31.5 million, respectively, related to the effects of currency translation of the Company's foreign-based subsidiaries and branches.

Net revenue increased 21.7%, or $542.5 million, for the year ended December 31, 2016, compared to the year ended December 31, 2015, which increased 14.0%, or $306.4 million, compared to the year ended December 31, 2014. The

increase in net revenue for the year ended December 31, 2016, as compared to the same period in 2015, is primarily the result of the acquisition of TransFirst in April 2016, partially offset by decreases associated with currency translation. The impact of the TransFirst acquisition on net revenue was $380.7 million for the year ended December 31, 2016. The increase in net revenue for the year ended December 31, 2015, as compared to the same period in 2014 is primarily the result of increases in new business and organic growth, partially offset by decreases associated with currency translation.

Major Customer

The Company works to maintain a large and diverse customer base across various industries. Although the Company does not have a major customer on a consolidated basis, a significant amount of the Company's revenues are derived from long-term contracts with large clients. TSYS derives revenues from providing various processing and other services to these clients, including processing of consumer and commercial accounts, as well as revenues for reimbursable items. The loss of one of the Company's large clients could have a material adverse effect on the Company's financial position, results of operations and cash flows.

Operating Segments

TSYS' services are provided through four operating segments: North America Services, International Services, Merchant Services and Netspend.

Issuing Services — North America Services and International Services

The Company's North America Services and International Services segments have many long-term customer contracts with card issuers pursuant to which both segments provide account processing and output services for printing and embossing items. These contracts generally require advance notice prior to the end of the contract if a client chooses not to renew. Additionally, some contracts may permit early termination upon the occurrence of certain events such as a change in control. The termination fees paid upon the occurrence of such events are designed primarily to cover balance sheet exposure related to items such as capitalized conversion costs or client incentives associated with the contract and, in some cases, may cover a portion of lost future revenue and profit. Although these contracts may be terminated upon certain occurrences, the contracts provide each segment with a steady revenue stream since a vast majority of the contracts are honored through the contracted expiration date.

These services are provided throughout the period of each account's use, starting from a card-issuing client processing an application for a card. Services may include processing the card application, initiating service for the cardholder, processing each card transaction for the issuing retailer or financial institution and accumulating the account's transactions. Fraud management services monitor the unauthorized use of accounts which have been reported to be lost, stolen, or which exceed credit limits. Fraud detection systems help identify fraudulent transactions by monitoring each account holder's purchasing patterns and flagging unusual purchases. Other services provided include customized communications to cardholders, information verification associated with granting credit, debt collection and customer service

Issuing Services revenues are generated from charges based on the number of accounts on file (AOF), transactions and authorizations processed, statements mailed, cards embossed and mailed, and other processing services for cardholder AOF. Cardholder AOF includes active and inactive consumer credit, retail, prepaid, stored value, government services and commercial card accounts. TSYS' clients also have the option to use fraud and portfolio management services. Collectively, these services are considered volume-based revenues.

Whether or not an account on file is active can impact TSYS' revenues differently. Active accounts are accounts that have had monetary activity either during the current month or in the past 90 days based on contractual definition. Inactive accounts are accounts that have not had a monetary transaction (such as a purchase or payment) in the past 90 days. The more active an account is, the more revenue is generated for TSYS (items such as transactions and authorizations processed and statements billed).

Occasionally, a client will purge inactive accounts from its portfolio. An inactive account typically will only generate an AOF charge. A processing client will periodically review its cardholder portfolio based upon activity and usage. Each client, based upon criteria individually set by the client, will flag an account to be "purged" from TSYS' system and deactivated.

A deconversion involves a client migrating all of its accounts to an in-house solution or another processor. Account deconversions include active and inactive accounts and can impact the Company's revenues significantly more than an account purge.

A sale of a portfolio typically involves a client selling a portion of its accounts to another party. A sale of a portfolio and a deconversion impact the Company's financial statements in a similar fashion, although a sale usually has a smaller financial impact due to the number of accounts typically involved.

Below is a summary of AOF for the Company's Issuing Services segments combined:

(in millions)	As of December 31,			Percent Change	
AOF	**2016**	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Consumer	**442.9**	408.2	298.4	**8.5 %**	36.8 %
Commercial	**47.9**	45.4	41.6	**5.4**	9.2
Other	**31.0**	26.6	22.4	**16.8**	18.8
Traditional AOF[1]	**521.8**	480.2	362.4	**8.7**	32.5
Prepaid/Stored Value[2]	**57.8**	97.2	127.3	**(40.5)**	(23.7)
Government Services[3]	**88.7**	79.3	67.4	**11.7**	17.8
Commercial Card Single-Use[4]	**83.2**	75.8	59.6	**9.8**	27.1
Total AOF	**751.5**	732.5	616.7	**2.6**	18.8

1 *Traditional accounts include consumer, retail, commercial, debit and other accounts. These accounts are grouped together due to the tendency to have more transactional activity than prepaid, government services and single-use accounts.*

2 *Prepaid does not include Netspend accounts. These accounts tend to have less transactional activity than the traditional accounts. Prepaid and stored value cards are issued by firms through retail establishments to be purchased by consumers to be used at a later date. These accounts tend to be the least active of all accounts on file.*

3 *Government services accounts are disbursements of student loan accounts issued by the Department of Education, which have minimal activity.*

4 *Commercial card single-use accounts are one-time use accounts issued by firms to book lodging and other travel related expenses.*

Non-volume related revenues include processing fees which are not directly associated with AOF and transactional activity, such as value-added products and services, custom programming and certain other services, which are only offered to TSYS' processing clients.

Additionally, certain clients license the Company's processing systems and process in-house. Since these accounts are processed outside of TSYS, for licensing arrangements the AOF and other volumes are not available to TSYS. Thus, volumes reported by TSYS do not include volumes associated with licensing.

Output and managed services include offerings such as card production, statement production, correspondence and call center support services.

A summary of each segment's results follows:

North America Services

The North America Services segment provides payment processing and related services to clients based primarily in North America. Growth in revenues and operating profit in this segment is derived from retaining and growing the core business and improving the overall cost structure. Growing the core business comes primarily from an increase in account usage, growth from existing clients and sales to new clients and the related account conversions. This segment had three major customers for the year ended December 31, 2016.

Below is a summary of the North America Services segment:

(in thousands)	Years Ended December 31, 2016	2015	2014	Percent Change 2016 vs. 2015	2015 vs. 2014
Volume-based revenues	**$ 630,900**	595,314	480,386	**6.0 %**	23.9 %
Non-volume related revenues:					
Processing fees	**$ 236,641**	235,313	216,685	**0.6**	8.6
Value-added, custom programming, licensing and other	**159,084**	151,671	115,741	**4.9**	31.0
Output and managed services	**179,388**	164,956	141,270	**8.7**	16.8
Total non-volume related revenues	**$ 575,113**	551,940	473,696	**4.2**	16.5
Net revenue	**$1,206,013**	1,147,254	954,082	**5.1**	20.2
Total revenues	**$1,387,416**	1,334,258	1,117,764	**4.0**	19.4
Adjusted segment operating income[1]	**$ 468,251**	429,064	351,512	**9.1**	22.1
Adjusted segment operating margin[2]	**38.8 %**	37.4 %	36.8 %		
Key indicators *(in millions)*:					
AOF	**662.8**	654.1	550.0	**1.3**	18.9
Transactions	**17,140.3**	15,774.5	10,838.0	**8.7**	45.5

[1] *Adjusted segment operating income excludes acquisition intangible amortization and expenses associated with Corporate Administration and Other.*
[2] *Adjusted segment operating margin equals adjusted segment operating income divided by net revenue.*

For the year ended December 31, 2016, approximately 52.3% of TSYS' North America Services segment net revenue was driven by the volume of accounts on file and transactions processed and approximately 47.7% was derived from non-volume based revenues.

Total segment revenues increased $53.2 million for 2016, as compared to 2015. The increase was attributable to an increase in new business and internal growth, partially offset by decreases related to client deconversions and price reductions. Total segment revenues increased $216.5 million for 2015, as compared to 2014. The increase was attributable to an increase in new business, internal growth and reimbursable items, partially offset by decreases related to client deconversions, price reductions and other adjustments.

During the first quarter of 2015, two of the Company's largest prepaid processing clients in the North America Services segment informed TSYS that they did not intend to renew their prepaid processing agreements. One of the deconversions was completed in early October 2015. The other is expected to be completed during the first half of 2017. The revenues associated with these clients, in the aggregate, are immaterial to the Company's total consolidated revenues in 2016, 2015, and 2014.

The increases in adjusted segment operating income for 2016 and 2015 were driven primarily by increases in revenues partially offset by increases in total operating expenses including severance costs, technology and other expenses.

International Services

The International Services segment provides issuer card solutions to financial institutions and other organizations primarily based outside the North American region. Growth in revenues and operating profit in this segment is derived from retaining and growing the core business and improving the overall cost structure. Growing the core business comes primarily from an increase in account usage, growth from existing clients and sales to new clients and the related account conversions. This segment's financial results are impacted by foreign currency. Movements in foreign currency exchange rates as compared to the U.S. dollar can result in foreign denominated financial statements being translated into more or fewer U.S. dollars, which impacts the comparison to prior periods when the U.S. dollar was stronger or weaker. This segment had two major customers for the year ended December 31, 2016.

Below is a summary of the International Services segment:

(in thousands)	Years Ended December 31, 2016	2015	2014	Percent Change 2016 vs. 2015	2015 vs. 2014
Volume-based revenues	**$118,311**	119,974	131,322	**(1.4)%**	(8.6)%
Non-volume related revenues:					
Processing fees	**$ 59,379**	62,998	69,346	**(5.7)**	(9.2)
Value-added, custom programming, licensing and other	**78,408**	86,318	95,040	**(9.2)**	(9.2)
Output and managed services	**57,533**	61,869	46,077	**(7.0)**	34.3
Total non-volume related revenues	**$195,320**	211,185	210,463	**(7.5)**	0.3
Net revenue	**$313,631**	331,159	341,785	**(5.3)**	(3.1)
Total revenues	**$335,977**	354,725	363,359	**(5.3)**	(2.4)
Adjusted segment operating income[1]	**$ 56,774**	60,087	55,123	**(5.5)**	9.0
Adjusted segment operating margin[2]	**18.1 %**	18.1 %	16.1 %		
Key indicators *(in millions)*:					
AOF	**88.7**	78.5	66.6	**13.0**	17.8
Transactions	**2,717.8**	2,473.6	2,268.4	**9.9**	9.0

[1] *Adjusted segment operating income excludes acquisition intangible amortization and expenses associated with Corporate Administration and Other.*
[2] *Adjusted segment operating margin equals adjusted segment operating income divided by net revenue.*

For the year ended December 31, 2016, approximately 37.7% of TSYS' International Services segment net revenue was driven by the volume of accounts on file and transactions processed and approximately 62.3% was derived from non-volume based revenues.

The decreases in total segment revenues for 2016 and 2015 were driven primarily by the negative impacts of $42.5 million and $31.0 million in currency translation. Excluding the impact of currency translation, segment revenues increased $23.8 million, or 6.7% in 2016, as compared to 2015 and $22.3 million, or 6.1% in 2015, as compared to 2014.

The decrease in adjusted segment operating income for 2016, as compared to 2015, was driven primarily by currency translation, severance costs and decreases in both volume and non-volume related revenues. The increase in adjusted segment operating income for 2015, as compared to 2014, was driven primarily by an increase in non-volume related revenues due to increased business.

Merchant Services

The Merchant Services segment provides merchant services and related services to clients based primarily in the United States. Merchant Services revenues are derived from providing processing services, acquiring solutions, related systems and integrated support services to merchant acquirers and merchants. Revenues from merchant services include processing all payment forms including credit, debit, prepaid, electronic benefit transfer and electronic check for merchants of all sizes across a wide array of market verticals. Merchant services include authorization and capture of transactions; clearing and settlement of transactions; information reporting services related to transactions; merchant billing services; and point-of-sale (POS) equipment sales and service. This segment had no major customers for the year ended December 31, 2016.

Below is a summary of the Merchant Services segment:

(in thousands)	Years Ended December 31, 2016	2015	2014	Percent Change 2016 vs. 2015	2015 vs. 2014
Net revenue	**$ 898,533**	474,040	435,649	**89.5 %**	8.8 %
Total revenues	**$1,828,828**	549,369	510,120	**nm**	7.7
Adjusted segment operating income[1]	**$ 307,595**	150,225	134,872	**nm**	11.4
Adjusted segment operating margin[2]	**34.2 %**	31.7 %	31.0 %		
Key indicators *(in millions)*:					
POS transactions	**4,548.1**	4,266.5	4,052.7	**6.6**	5.3
Dollar sales volume	**$ 97,735.1**	48,072.7	46,846.4	**nm**	2.6

Includes TransFirst's results for nine months in 2016. TransFirst's results are not included in 2015 and 2014.
nm = not meaningful

[1] *Adjusted segment operating income excludes acquisition intangible amortization and expenses associated with Corporate Administration and Other.*
[2] *Adjusted segment operating margin equals adjusted segment operating income divided by net revenue.*

With the acquisition of TransFirst in April 2016, TSYS included nine months of TransFirst's results as part of the Merchant Services segment. TransFirst's revenues are reported gross, which includes amounts paid for interchange and assessments, as TransFirst is the principal in the contractual relationship with its customers. Expenses covering interchange and assessment fees are included in TransFirst's cost of services and are directly attributable to processing fee revenues. Merchant Segment net revenue is defined as total revenues less merchant acquiring interchange and assessment fees charged by the card associations or payment networks that are recorded by TSYS as an expense.

The Merchant Services segment results are driven by dollar sales volume and the authorization and capture transactions processed at the point-of-sale and clearing and settlement transactions. This segment's authorization and capture transactions are primarily through dial-up or Internet connectivity.

For the year ended December 31, 2016, approximately 94.0% of TSYS' Merchant Services segment net revenue was influenced by several factors, including volumes related to transactions and dollar sales volume. The remaining 6.0% of this segment's net revenue was derived from value added services, chargebacks, managed services, investigation, risk and collection services performed.

Total segment revenues increased $1.3 billion for 2016, as compared to 2015. This increase was primarily due to the inclusion of TransFirst revenues, which were $1.2 billion, as well as increases associated with new business, internal growth and reimbursable items offset by decreases associated with lost business, deconversions and price reductions. Total segment revenues increased $39.2 million for 2015, as compared to 2014. This increase includes increases associated with new business, internal growth and reimbursable items offset by decreases associated with lost business, deconversions and price reductions.

The increase in adjusted segment operating income for 2016, as compared to 2015, was driven primarily by the acquisition of TransFirst in April 2016, partially offset by severance costs. The increase in adjusted segment operating income for 2015, as compared to 2014, was driven by an increase in revenues partially offset by increases in associated costs.

Netspend

Netspend provides GPR prepaid debit cards, payroll cards, and alternative financial service solutions to underbanked and other consumers and businesses in the United States. Netspend's products provide customers with access to depository accounts insured by the FDIC with a menu of pricing and features specifically tailored to their needs. This segment has an extensive distribution and reload network comprising financial service centers and other retail locations throughout the United States, and is a program manager for FDIC-insured depository institutions that issue the card products that Netspend develops, promotes and distributes. Netspend currently has active agreements with six Issuing Banks.

The Netspend segment markets prepaid cards through multiple distribution channels, including alternative financial service providers, traditional retailers, direct-to-consumer and online marketing programs and contractual relationships with corporate employers. This segment had no major customers and one major third-party distributor for the year ended December 31, 2016.

The Netspend segment's revenues primarily consist of a portion of the service fees and interchange revenues received by Netspend's prepaid card Issuing Banks in connection with the programs managed by this segment. Cardholders are charged fees for transactions including fees for PIN and signature-based purchase transactions made using their prepaid cards, for ATM withdrawals or other transactions conducted at ATMs, for balance inquiries, and monthly maintenance fees among others. Cardholders are also charged fees associated with additional products and services offered in connection with certain cards including the use of overdraft features, bill payment options, custom card designs and card-to-card transfers of funds initiated through call centers. The Netspend segment also earns revenues from a portion of the interchange fees remitted by merchants when cardholders make purchase transactions using their cards. Subject to applicable law, interchange fees are fixed by card associations and network organizations.

Below is a summary of the Netspend segment:

(in thousands)	Years Ended December 31, 2016	2015	2014	Percent Change 2016 vs. 2015	2015 vs. 2014
Total revenues (and net revenue)	**$ 663,579**	580,377	482,686	**14.3 %**	20.2 %
Adjusted segment operating income[1]	**$ 160,371**	137,837	128,285	**16.3**	7.4
Adjusted segment operating margin[2]	**24.2 %**	23.8 %	26.6 %		
Key indicators *(in millions)*:					
Number of active cards[3]	**4.3**	3.9	3.2	**10.3**	29.1
Number of active cards with direct deposit[4]	**2.1**	1.9	1.6	**12.7**	17.7
Percentage of active cards with direct deposit	**49.7 %**	48.7 %	50.1 %		
Gross dollar volume[5]	**$28,722.3**	24,274.9	20,296.0	**18.3 %**	19.6 %

[1] *Adjusted segment operating income excludes acquisition intangible amortization and expenses associated with Corporate Administration and Other.*
[2] *Adjusted segment operating margin equals adjusted segment operating income divided by net revenue*
[3] *Number of active cards represents the total number of prepaid cards that have had a PIN or signature-based purchase transaction, a point-of-sale load transaction or an ATM withdrawal within three months of the date of determination.*
[4] *Number of active cards with direct deposit represents the number of active cards that have had a direct deposit load within three months of the date of determination.*
[5] *Gross dollar volume represents the total dollar volume of debit transactions and cash withdrawals made using prepaid cards.*

Netspend segment revenues increased $83.2 million for 2016 from 2015. This increase was comprised of a $66.6 million increase in service fee revenues and a $16.6 million increase in interchange and other revenues. Netspend segment revenues increased $97.7 million for 2015, as compared to 2014. This increase was comprised of a $64.3 million increase in service fee revenues and a $33.4 million increase in interchange and other revenues.

For the year ended December 31, 2016, 70.9% of revenues were derived from service fees charged to cardholders and 29.1% of revenues were derived from interchange and other revenues. Service fee revenues are driven by the number of active cards and in particular by the number of cards with direct deposit. Cardholders with direct deposit generally initiate more transactions and generate more revenues than those that do not take advantage of this feature. Interchange revenues are driven by gross dollar volume. Substantially all of the Netspend segment revenues were volume driven as they were driven by the active card and gross dollar volume indicators.

If the CFPB's new rule pertaining to prepaid financial products, which is scheduled to become effective October 1, 2017, had been effective for 2016, the Company currently estimates that 2016 total revenues would have been negatively impacted by approximately $80.0 million to $85.0 million, with an estimated negative impact to EPS of $0.19 to $0.21, including compliance costs. The impacted revenue consists of overdraft revenue which was approximately 10% to 12% of Netspend's revenue and certain other fees that are prohibited by the rule. The Company currently expects 2017 total revenues to be negatively impacted by approximately $20.0 million to $25.0 million, with an estimated negative impact to EPS of $0.06 to $0.08, which has been factored in to the Company's guidance for 2017, and currently expects 2018 total revenues to be negatively impacted by an additional $20.0 million to $25.0 million, with an estimated negative impact to EPS of $0.05 to $0.07.

The estimated earnings and revenue impact of the new rule set forth above for 2017 and 2018 is based in part on the Company's current, but not yet complete, analysis of the rule and analysis of the CFPB's underlying intent. By 2018, the Company expects to offset approximately one-half of the total negative revenue impact of the rule and approximately one-third of the total negative EPS impact of the rule through its business expansion strategies.

The Company will continue to review and interpret the new rule and analyze its expected impact on Netspend's business. The estimated revenue and earnings impact set forth above only includes the projected impact of the rule on the Company's financial performance and does not include the impact of other matters that may impact the performance of Netspend's business in 2017 and 2018 and is subject to risks and uncertainties such as the costs of compliance associated with the rule and the success of Netspend's business expansion strategies which success will depend on, among other things, the rate of adoption of Netspend's new products both by consumers and its distribution partners, the rate of utilization of the various product features by cardholders and market and regulatory dynamics. The estimated impact of the rule on both the Company's 2017 and 2018 financial performance could vary either positively or negatively based on these and other factors. Furthermore, the estimated impact of the rule on both the Company's 2017 and 2018 financial performance may be adjusted either upward or downward after the Company completes its analysis of the rule and as Netspend's business expansion planning progresses.

Operating Expenses

The Company's operating expenses were $3.6 billion, $2.2 billion and $2.0 billion in 2016, 2015 and 2014, respectively. Operating expenses consist of cost of services and selling, general and administrative expenses. Cost of services describes the direct expenses incurred in performing a particular service for customers, including the cost of direct labor expense in putting the service in saleable condition. Selling, general and administrative expenses are incurred in selling or marketing and for the direction of the enterprise as a whole, including accounting, legal fees, sales, investor relations and mergers and acquisitions.

The changes in operating expenses for the years ended December 31, 2016 and 2015 include decreases of $26.0 million and $30.4 million, respectively, related to the effects of currency translation of the Company's foreign-based subsidiaries. Operating expenses for the year ended December 31, 2016 were also impacted by the TransFirst acquisition. Operating expenses increased $1.3 billion due to the acquisition of TransFirst in 2016. Operating expenses in 2016 were also impacted by $21.7 million of litigation settlement, settlement discussions and related legal expenses.

The Company's cost of services were $3.0 billion, $1.9 billion and $1.7 billion in 2016, 2015 and 2014, respectively. The increases in cost of services are due to increases in employment, severance, technology and facilities and other costs to support revenue growth and the acquisition of TransFirst. The Company's selling, general and administrative expenses were $603.6 million, $390.3 million and $346.3 million in 2016, 2015 and 2014, respectively. The increases in selling, general and administrative costs were due primarily to the acquisition of TransFirst in April 2016 and litigation settlement and settlement discussions. Expenses in 2015 were also impacted by certain one-time state tax benefits of $15.6 million that resulted from prior years but were recognized in 2015. Expenses in 2014 were also impacted by a significant nonrecurring charitable contribution.

The Company's transaction and integration expenses related to the acquisition of TransFirst in 2016 were $32.3 million for the year ended December 31, 2016. These expenses consist of costs related to the completion of the acquisition such as legal, accounting and professional fees, as well as, personnel costs for severance and retention.

Operating Income

Operating income increased 7.4% for the year ended December 31, 2016, compared to 2015. The Company's operating profit margin for year ended December 31, 2016 was 13.6%, compared to 19.2% last year. TSYS' operating margins decreased for the year ended December 31, 2016, as compared 2015, due primarily to the increase in acquisition and integration expenses, severance and the operating results and lower operating margin of TransFirst.

Nonoperating Income (Expense)

Nonoperating income (expense) consists of interest income, interest expense, gains and losses on currency transactions and gains and losses on investments in private equity. Nonoperating expense increased in 2016 as compared to 2015, and decreased in 2015 as compared to 2014.

The following table provides a summary of nonoperating expense:

	Years Ended December 31,			Percent Change	
(in thousands)	**2016**	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Interest expense[1]	**$(115,363)**	(40,701)	(40,975)	**nm %**	(0.7)%
Interest income	**1,840**	1,450	1,109	**26.9**	30.8
Currency transaction gains (losses),net	**1,748**	(388)	142	**nm**	nm
Net gains (losses) on investments in private equity	**182**	3,324	308	**nm**	nm
Other	**(575)**	(904)	705	**(36.4)**	nm
Total	**$(112,168)**	(37,219)	(38,711)	**nm**	(3.9)

nm = not meaningful

[1] *Interest expense includes interest on bonds of $84.6 million, $33.7 million, and $33.7 million, respectively, for the years ended December 31, 2016, 2015 and 2014.*

Interest expense for the year ended December 31, 2016 increased $74.6 million compared to 2015. The increase in interest expense in 2016 compared to 2015 is due to the debt financing of the acquisition of TransFirst in April 2016. Refer to Notes 12 and 23 in the Consolidated Financial Statements for more information on long-term borrowings and acquisitions.

Income Taxes

Below is a summary of income tax expense:

(in thousands)	Years Ended December 31,			Percent Change	
	2016	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Income tax expense	**$161,175**	151,364	129,761	**6.5 %**	16.6 %
Effective income tax rate	**34.9 %**	30.5 %	33.0 %		

During 2016, the Company generated income tax credits in excess of its utilization capacity based on both the Company's current operations and with consideration of future tax planning strategies. Based upon these same considerations, the Company reassessed its need for valuation allowances in all jurisdictions. Accordingly, the Company experienced a net increase in its valuation allowance for deferred income tax assets of $2.9 million.

In 2016, TSYS reassessed its uncertain tax positions for all jurisdictions. As a result, the Company increased unrecognized tax benefits by $3.4 million.

Refer to Note 14 in the Consolidated Financial Statements for more information on income taxes.

Equity in Income of Equity Investments

Below is a summary of TSYS' share of income from its interest in equity investments:

(in thousands)	Years Ended December 31,			Percent Change	
	2016	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Equity in income of equity investments	**$25,933**	22,106	17,583	**17.3 %**	25.7 %

The increases in equity income in 2016 and 2015 is the result of organic growth in China Union Pay Data Co., Ltd (CUP Data). Refer to Note 11 in the Consolidated Financial Statements for more information on equity investments.

Discontinued Operations

TSYS sold its Japan-based operations during 2014 and recorded income from discontinued operations, net of tax, of $1.4 million and $48.7 million for 2015 and 2014, respectively. Refer to Note 2 in the Consolidated Financial Statements for more information on discontinued operations.

Net Income

The following table provides a summary of net income and EPS:

(in thousands, except per share data)	Years Ended December 31,			Percent Change	
	2016	2015	2014	**2016 vs. 2015**	2015 vs. 2014
Net income	**$325,972**	369,041	329,406	**(11.7)%**	12.0 %
Net income attributable to noncontrolling interests	**(6,334)**	(4,997)	(6,534)	**26.8**	(23.5)
Net income attributable to TSYS common shareholders	**$319,638**	364,044	322,872	**(12.2)**	12.8
Basic EPS attributable to TSYS common shareholders[1]	**$ 1.74**	1.98	1.73	**(12.0)**	14.1
Diluted EPS attributable to TSYS common shareholders[1]	**$ 1.73**	1.97	1.72	**(11.8)**	14.2

[1] *Basic and diluted EPS is computed based on the two-class method in accordance with the guidance under GAAP. Refer to Note 25 in the Consolidated Financial Statements for more information on EPS.*

Net income attributable to noncontrolling interests in 2016 increased by $1.3 million from 2015 and decreased $1.5 million in 2015 from 2014. The increase in 2016 compared to 2015 is driven by the increased operating results of Central Payment Co., LLC (CPAY). The decrease in 2015 compared to 2014 is driven by the sale of GP Network Corporation (GP Net) in 2014 and the decline in operating results of the Company's European cost center business in 2015.

Non-GAAP Financial Measures

Management evaluates the Company's operating performance based upon operating margin on a net revenue basis, adjusted EBITDA, segment operating margin and consolidated adjusted operating margin, adjusted EPS and free cash flow which are all non-generally accepted accounting principles (non-GAAP) measures. TSYS also uses these non-GAAP financial measures to evaluate and assess TSYS' financial performance against budget.

Although non-GAAP financial measures are often used to measure TSYS' operating results and assess its financial performance, they are not necessarily comparable to similarly titled measures of other companies due to potential inconsistencies in the method of calculation.

TSYS believes that its provision of non-GAAP financial measures provides investors with important key financial performance indicators that are utilized by management to assess TSYS' operating results, evaluate the business and make operational decisions on a prospective, going-forward basis. Hence, management provides disclosure of non-GAAP financial measures to give shareholders and potential investors an opportunity to see TSYS as viewed by management, to assess TSYS with some of the same tools that management utilizes internally and to be able to compare such information with prior periods. TSYS believes that inclusion of non-GAAP financial measures provides investors with additional information to help them better understand its financial statements just as management utilizes these non-GAAP financial measures to understand the business, manage budgets and allocate resources.

The following tables provide a reconciliation of GAAP to non-GAAP financial measures:

Revenue before Reimbursable Items, Net Revenue and Operating Margin on a Net Revenue Basis

(in thousands)	**Years Ended December 31,**		
	2016	2015	2014
Operating income (a) (GAAP)	**$ 573,382**	534,107	431,640
Total revenues (b)	**$4,170,077**	2,779,541	2,446,877
Less: Reimbursable items	**259,543**	280,192	253,899
Revenue before reimbursable items	**3,910,534**	2,499,349	2,192,978
Less: Interchange and assessment expenses	**868,658**	—	—
Net revenue (c) (non-GAAP)	**$3,041,876**	2,499,349	2,192,978
Operating margin (as reported) (a)/(b)	**13.75%**	19.22%	17.64%
Operating margin on a net revenue basis (a)/(c) (non-GAAP)	**18.85%**	21.37%	19.68%

Adjusted EBITDA

(in thousands)	**Years Ended December 31,**		
	2016	2015	2014
Net income (GAAP)	**$ 325,972**	369,041	329,406
Adjust for:			
Income from discontinued operations	**—**	(1,411)	(48,655)
Deduct: Equity in income of equity investments	**(25,933)**	(22,106)	(17,583)
Add: Income taxes	**161,175**	151,364	129,761
Add: Nonoperating expense	**112,168**	37,219	38,711
Add: Depreciation and amortization	**373,546**	258,264	246,620
EBITDA	**946,928**	792,371	678,260
Adjust for:			
Add: Share-based compensation	**43,728**	41,549	30,790
Add: TransFirst and Netspend M&A and integration expenses[1]	**28,176**	—	3,217
Add: Litigation, claims, judgments or settlements[2]	**21,719**	—	—
Adjusted EBITDA (non-GAAP)	**$1,040,551**	833,920	712,267

1 *Costs associated with the TransFirst and Netspend acquisitions which are included in selling, general and administrative expenses.*
2 *Litigation settlement or settlement discussions and related legal expenses*

Segment Operating Margin and Adjusted Segment Operating Income

(in thousands)	2016	2015	2014
	Years Ended December 31,		
Operating income (GAAP) (a)	**$ 573,382**	534,107	431,640
Share-based compensation	**43,728**	41,549	30,790
TransFirst and Netspend M&A and integration expenses[1]	**28,176**	—	3,217
Litigation, claims, judgments or settlements	**21,719**	—	—
Acquisition intangible amortization	**189,990**	92,521	96,970
Adjusted operating income (non-GAAP)(b)	**$ 856,995**	668,177	562,617
Adjusted operating income by segment (non-GAAP):			
North America Services (c)	**$ 468,251**	429,064	351,512
International Services (d)	**56,774**	60,087	55,123
Merchant Services (e)	**307,595**	150,225	134,872
Netspend (f)	**160,371**	137,837	128,285
Corporate Administration and Other	**(135,996)**	(109,036)	(107,175)
Adjusted segment operating income[2] (non-GAAP)	**$ 856,995**	668,177	562,617
Total revenues (GAAP) (g)	**$4,170,077**	2,779,541	2,446,877
Less: reimbursable items	**259,543**	280,192	253,899
Revenue before reimbursable items	**3,910,534**	2,499,349	2,192,978
Intersegment revenues	**39,880**	33,481	21,224
Segment revenue before reimbursable items (non-GAAP)	**$3,950,414**	2,532,830	2,214,202
Segment revenue before reimbursable items (non-GAAP):			
North America Services	**$1,206,013**	1,147,254	954,082
International Services	**313,631**	331,159	341,785
Merchant Services	**1,767,191**	474,040	435,649
Netspend	**663,579**	580,377	482,686
Segment revenue before reimbursable items (non-GAAP)	**$3,950,414**	2,532,830	2,214,202
Total revenues (GAAP) (g)	**$4,170,077**	2,779,541	2,446,877
Less: reimbursable items	**259,543**	280,192	253,899
Revenue before reimbursable items	**3,910,534**	2,499,349	2,192,978
Less: interchange and assessments expenses	**868,658**	—	—
Net revenue[2] (non-GAAP) (h)	**3,041,876**	2,499,349	2,192,978
Intersegment revenues	**39,880**	33,481	21,224
Segment net revenue (non-GAAP)	**$3,081,756**	2,532,830	2,214,202
Segment net revenue (non-GAAP):			
North America Services (i)	**$1,206,013**	1,147,254	954,082
International Services (j)	**313,631**	331,159	341,785
Merchant Services (k)	**898,533**	474,040	435,649
Netspend (l)	**663,579**	580,377	482,686
Segment net revenue (non-GAAP)	**$3,081,756**	2,532,830	2,214,202
Segment external net revenue (non-GAAP):			
North America Services	**$1,174,304**	1,118,332	936,957
International Services	**308,552**	326,834	338,126
Merchant Services	**898,175**	473,806	435,209
Netspend	**660,845**	580,377	482,686
Segment external net revenue (non-GAAP)	**$3,041,876**	2,499,349	2,192,978
Operating margin (GAAP) (a)/(g)	**13.8%**	19.2%	17.6%
Adjusted operating margin on net revenue (non-GAAP) (b)/(h)	**28.2%**	26.7%	25.7%
Adjusted segment operating margin on net revenue (non-GAAP):			
North America Services (c)/(i)	**38.8%**	37.4%	36.8%
International Services (d)/(j)	**18.1%**	18.1%	16.1%
Merchant Services (e)/(k)	**34.2%**	31.7%	31.0%
Netspend (f)/(l)	**24.2%**	23.7%	26.6%

1 Excludes share-based compensation

2 Net revenue and adjusted segment operating income are non-GAAP measures. Net revenue is total revenues less reimbursable items (such as postage), as well as, merchant acquiring interchange and assessment fees charged by the card associations or payment networks that are recorded by TSYS as expense. Adjusted segment operating income excludes acquisition intangible amortization, TransFirst M&A expenses, share-based compensation and expenses associated with Corporate Administration and Other.

Adjusted Earnings Per Share

(in thousands, except per share data)	Years Ended December 31, 2016	2015	2014
Income attributable to TSYS common shareholders (GAAP)	**$319,638**	$362,633	275,216
Adjust for amounts attributable to TSYS common shareholders:			
Add: Acquisition intangible amortization	**188,887**	91,418	95,743
Add: Share-based compensation	**43,691**	41,535	30,790
Add: TransFirst and Netspend M&A and integration expenses[1]	**37,957**	—	3,217
Add: Litigation, claims, judgments or settlements[2]	**19,913**	—	—
Less: Tax impact of adjustments[3]	**(93,667)**	(43,474)	(40,564)
Adjusted earnings	**$516,419**	$452,112	$364,402
Basic EPS - Income attributable to TSYS common shareholders:			
As reported (GAAP)	**$ 1.74**	1.97	1.48
Adjusted EPS (non-GAAP)	**$ 2.81**	2.46	1.96
Average common shares and participating securities	**183,655**	184,082	186,222

[1] *Costs associated with the TransFirst and Netspend acquisitions which are included in selling, general and administrative expenses and nonoperating expenses.*
[2] *Litigation settlement or settlement discussions and related legal expenses*
[3] *Certain of these merger and acquisition costs are nondeductible for income tax purposes. Income tax impact includes a discrete item as a result of the acquisition.*

Free Cash Flow

(in thousands)	Years Ended December 31, 2016	2015	2014
Net cash provided by operating activities (GAAP)	**$ 717,909**	600,194	560,201
Capital expenditures	**(142,573)**	(203,315)	(235,923)
Free cash flow (non-GAAP)	**$ 575,336**	396,879	324,278

Financial Position, Liquidity and Capital Resources

The Consolidated Statements of Cash Flows detail the Company's cash flows from operating, investing and financing activities. TSYS' primary methods for funding its operations and growth have been cash generated from current operations, the use of leases and the occasional use of borrowed funds to supplement financing of capital expenditures.

Cash Flows from Operating Activities

(in thousands)	Years Ended December 31, 2016	2015	2014
Net income	**$325,972**	369,041	329,406
Depreciation and amortization	**373,546**	258,264	248,018
Other noncash items and charges, net	**105,403**	50,458	(27,928)
Net change in current and other assets and current and other liabilities	**(87,012)**	(77,569)	10,705
Net cash provided by operating activities	**$717,909**	600,194	560,201

TSYS' main source of funds is derived from operating activities, specifically net income. The increase in 2016, as compared to 2015, in net cash provided by operating activities was primarily the result of the combined increase of noncash charges, such as depreciation and amortization, the net earnings of the Company, and the impact of TransFirst. The increase in 2015, as compared to 2014, in net cash provided by operating activities was primarily the result of increased earnings.

Net change in current and other assets and current and other liabilities include accounts receivable, prepaid expenses, other current assets and other assets, accounts payable, accrued salaries and employee benefits and other liabilities. The change in accounts receivable between the years is the result of timing of collections compared to billings. The change in accounts payable and other liabilities between years 2015 and 2014 is the result of the timing of payments and the reduction of liabilities related to the disposal of the Company's Japan operations.

Cash Flows from Investing Activities

(in thousands)	Years Ended December 31, 2016	2015	2014
Cash used in acquisitions, net of cash acquired	**$(2,345,493)**	(750)	(38,584)
Purchases of property and equipment	**(51,132)**	(54,640)	(75,913)
Additions to contract acquisition costs	**(45,847)**	(58,728)	(88,871)
Additions to internally developed computer software	**(34,043)**	(39,219)	(41,501)
Additions to licensed computer software from vendors	**(11,551)**	(50,729)	(29,638)
Purchase of private equity investments	**(4,930)**	(3,525)	(3,291)
Proceeds from insurance recovery for loss on disposal	**—**	—	6,212
Proceeds from dispositions, net of expenses paid and cash disposed	**—**	3,568	44,979
Proceeds from sale of private equity investment	**120**	1,839	—
Net cash used in investing activities	**$(2,492,876)**	(202,184)	(226,607)

The major uses of cash for investing activities in 2016, 2015 and 2014 were for acquisitions, purchases of property and equipment, additions to contract acquisition costs, internally developed computer software and licensed computer software from vendors.

Cash Used in Acquisitions

In 2016, the Company used cash of $2.3 billion in the acquisition of TransFirst. In 2014, the Company paid $38.6 million to Netspend dissenting shareholders to settle the outstanding lawsuit associated with the Netspend acquisition.

Property and Equipment

Capital expenditures for property and equipment were $51.1 million in 2016, compared to $54.6 million in 2015 and $75.9 million in 2014. The majority of capital expenditures in 2016 and 2015 related to computer processing hardware. The majority of capital expenditures in 2014 related to investments in new computer processing hardware and building improvements.

Contract Acquisition Costs

TSYS makes cash payments for processing rights, third-party development costs and other direct salary-related costs in connection with converting new customers to the Company's processing systems. The Company's investments in contract acquisition costs were $45.8 million in 2016, $58.7 million in 2015 and $88.9 million in 2014. The Company made cash payments for processing rights of $25.8 million, $29.6 million and $21.7 million in 2016, 2015 and 2014, respectively. Conversion cost additions were $20.0 million, $29.1 million and $67.2 million in 2016, 2015 and 2014, respectively. The decreases in conversion costs in 2016 and 2015, as compared to 2014, are primarily related to the conversion of Bank of America's consumer card portfolio.

Internally Developed Computer Software Costs

Additions to capitalized software development costs, including enhancements to, and development of, processing systems, were $34.0 million in 2016, $39.2 million in 2015 and $41.5 million in 2014. The changes in capitalized software development costs in 2016, as compared to 2015, were the result of a decrease in the level of activity in a multi-year, multi-phase initiative that consists of enhancing TSYS' issuing processing platforms.

Licensed Computer Software from Vendors

Capital expenditures for licensed computer software from vendors for increases in processing capacity were $11.6 million in 2016, compared to $50.7 million in 2015 and $29.6 million in 2014. The higher capital expenditures in 2015 were due primarily to the extension of existing mainframe and distributed software agreements.

Proceeds from Insurance Recovery for Loss on Disposal

In 2014, the Company received $6.2 million of proceeds from insurance coverage related to the destruction of property resulting from a fire. The Company recorded the loss on disposal which was more than offset by the insurance proceeds received.

Proceeds from Dispositions

TSYS received $3.6 million in proceeds from dispositions related to the return of cash in 2015 that was placed in escrow during closing and tax adjustments associated with the sale of the Company's Japan-based operations in 2014. In 2014, TSYS received $45.0 million of proceeds, net of expenses paid and cash disposed, in connection with this transaction. Refer to Note 2 in the Consolidated Financial Statements for more information on discontinued operations.

Purchases of Private Equity Investments

The Company has entered into limited partnership agreements in connection with investing in two Atlanta-based venture capital funds focused exclusively on investing in technology-enabled financial services companies. Pursuant to each limited partnership agreement, the Company has committed to invest up to $20.0 million in each fund so long as its ownership interest in each fund does not exceed 50%. The Company made investments in the funds of $4.9 million, $3.5 million and $3.3 million in 2016, 2015 and 2014, respectively.

Cash Flows from Financing Activities

	Years Ended December 31,		
(in thousands)	**2016**	2015	2014
Proceeds from long-term borrowings	**$2,666,295**	1,912	1,396
Proceeds from exercise of stock options	**11,708**	58,636	34,869
Excess tax benefit from share-based payment arrangements	**9,905**	24,357	7,185
Subsidiary dividends paid to noncontrolling shareholders	**(5,548)**	(5,028)	(7,172)
Purchase of noncontrolling interests	**(5,878)**	—	(37,500)
Debt issuance costs	**(26,555)**	—	—
Repurchases of common stock under plans and tax withholding	**(30,275)**	(242,235)	(170,516)
Dividends paid on common stock	**(73,378)**	(73,677)	(74,796)
Principal payments on long-term borrowings and capital lease obligations	**(724,084)**	(54,719)	(69,939)
Net cash provided by (used in) financing activities	**$1,822,190**	(290,754)	(316,473)

The main sources of cash from financing activities in 2016 were proceeds from long-term borrowings. The main sources of cash from financing activities in 2015 and 2014 were proceeds from the exercise of stock options. Net cash provided by financing activities for the year ended December 31, 2016 was primarily the result of proceeds from long-term borrowings in connection with the TransFirst acquisition. Net cash used in financing activities for the years ended December 31, 2015 and 2014 was primarily the result of the repurchases of common stock, payment of dividends, and principal payments on long-term debt borrowings and capital lease obligations offset by proceeds from the exercise of stock options. Refer to Notes 12 and 23 in the Consolidated Financial Statements for more information on the long-term debt financing and acquisitions.

Borrowings

Refer to Note 12 in the Consolidated Financial Statements for further information on borrowings.

Purchase of Noncontrolling Interest

In connection with the acquisition of CPAY, the Company is party to call and put arrangements with respect to the membership units that represent the remaining noncontrolling interest of CPAY. The call arrangement is exercisable by TSYS and the put arrangement is exercisable by the Seller. The put arrangement is outside the control of the Company by requiring the Company to purchase the Seller's entire equity interest in CPAY at a put price at fair value. At the time of the original acquisition, the redemption of the put option was considered probable based upon the passage of time of the second anniversary date. The put arrangement is recorded on the balance sheet and is classified as redeemable noncontrolling interest outside of permanent equity.

In February 2014, the Company purchased an additional 15% equity interest in CPAY for $37.5 million, reducing the redeemable noncontrolling interest to 25%. The call and put options for the Seller's 25% equity interest were extended as a result of this transaction.

The put option was not redeemable on December 31, 2016, but redemption was considered probable based upon the passage of time toward the third anniversary date of the 2014 purchase of additional equity. The Company's accounting policy is to accrete changes in the redemption value over the period from the date of issuance to the earliest redemption date, which the Company believes to be in 2017. The Company did not accrete any changes to the redemption value as the balance as of December 31, 2016 exceeded the accretion fair value amount.

Refer to Note 23 in the Consolidated Financial Statements for more information on this purchase.

Stock Repurchase Plan

In January 2015, TSYS announced that its Board had approved a new stock repurchase plan to repurchase up to 20 million shares of TSYS stock. The shares may be purchased from time to time at prices considered appropriate. There is no expiration date for the plan. Through December 31, 2016, the Company purchased 5.7 million shares for approximately $266.4 million at an average price of $47.15.

In April 2010, TSYS announced a stock repurchase plan to purchase up to 10 million shares of TSYS stock. The shares were to be purchased from time to time over the next two years at prices considered attractive to the Company. In May 2011, TSYS announced that its Board had approved an increase in the number of shares that may be repurchased under its current share repurchase plan from up to 10 million shares to up to 15 million shares of TSYS stock. The expiration date of the plan was also extended to April 30, 2013. In July 2012, TSYS announced that its Board had approved an increase in the number of shares that may be repurchased under its current share repurchase plan from up to 15 million shares to up to 20 million shares of TSYS stock. The expiration date of the plan was also extended to April 30, 2014. In January, 2014, TSYS announced that its Board had approved an increase in the number of shares that may be repurchased under its current share repurchase plan from up to 20 million shares to up to 28 million shares of TSYS stock. With the increase, TSYS had 6.8 million shares available to be repurchased. In addition, the expiration date of the plan was extended to April 30, 2015. Through December 31, 2014 the Company purchased 21.2 million shares for approximately $503.3 million, at an average price of $23.75. In January 2015, this plan was terminated.

Dividends

Dividends on common stock of $73.4 million were paid in 2016, compared to $73.7 million and $74.8 million in 2015 and 2014, respectively. The Company paid dividends of $0.40 per share in 2016, 2015 and 2014.

Significant Noncash Transactions

During 2016, 2015 and 2014, the Company issued 362,804, 388,211 and 673,724 shares of common stock, respectively, to certain key employees and non-management members of its Board of Directors. The grants to certain key employees were issued in the form of nonvested stock bonus awards for services to be provided in the future by such officers and employees. The market value of the common stock at the date of issuance is amortized as compensation expense over the vesting period of the awards. The grants to the Board of Directors were fully vested on the date of grant.

The Company acquired computer equipment under capital leases and software under license agreements in the amount of $1.8 million, $4.1 million and $17.9 million in 2016, 2015 and 2014, respectively.

Refer to Notes 18 and 22 in the Consolidated Financial Statements for more information on share-based compensation and significant noncash transactions.

Additional Cash Flow Information

Off-Balance Sheet Financing

TSYS uses various operating leases in its normal course of business. These "off-balance sheet" arrangements obligate TSYS to make payments for computer equipment, software and facilities. These computer and software lease commitments may be replaced with new lease commitments due to new technology. Management expects that, as these leases expire, they will be evaluated and renewed or replaced by similar leases based on need.

The following table summarizes future contractual cash obligations, including lease payments and software arrangements, as of December 31, 2016, for the next five years and thereafter:

	Contractual Cash Obligations Payments Due By Period				
(in thousands)	Total	1 Year or Less	2-3 Years	4-5 Years	After 5 Years
Debt obligations (principal)	$3,383,853	48,853	681,250	1,353,750	1,300,000
Debt obligations (interest)[1]	672,555	115,707	205,199	164,712	186,938
Operating leases	472,808	128,254	242,836	67,074	34,644
Purchase commitments	59,121	26,656	21,422	11,043	—
Redeemable noncontrolling interest	24,093	24,093	—	—	—
Capital lease obligations	3,836	2,754	1,082	—	—
Total contractual cash obligations	$4,616,266	346,316	1,151,789	1,596,579	1,521,582

[1] *Amounts utilize prevailing interest rates as of December 31, 2016.*

Income Taxes

The total liability for uncertain tax positions as of December 31, 2016 is $16.5 million. Refer to Note 14 in the Consolidated Financial Statements for more information on income taxes. The Company is not able to reasonably estimate the amount by which the liability will increase or decrease over time; however, at this time, the Company does not expect any significant changes related to these obligations within the next twelve months.

Foreign Operations

TSYS operates internationally and is subject to adverse movements in foreign currency exchange rates. On June 23, 2016, the United Kingdom (U.K.) held a referendum in which voters approved an exit from the European Union (E.U.), commonly referred to as "Brexit." As a result, global markets were adversely impacted, including currencies, and resulted in a decline in the value of the British pound, as compared to the U.S. dollar and other currencies. The announcement of Brexit and the withdrawal of the U.K. from the E.U. may also create global economic uncertainty, and have unknown social and geopolitical impact, which may adversely affect the Company's business, results of operations and financial condition. TSYS has not entered into foreign exchange forward contracts to reduce its exposure to foreign currency rate changes. TSYS continues to analyze potential hedging instruments to safeguard it from significant foreign currency translation risks.

TSYS maintains operating cash accounts outside the United States. Refer to Note 4 in the Consolidated Financial Statements for more information on cash and cash equivalents. TSYS has adopted the permanent reinvestment exception under GAAP with respect to future earnings of certain foreign subsidiaries. While some of the foreign cash is available to repay intercompany financing arrangements, remaining amounts are not presently available to fund domestic operations and obligations without paying a significant amount of taxes upon its repatriation. Demand on the Company's cash has increased as a result of its strategic initiatives. TSYS funds these initiatives through a balance of internally generated cash, external sources of capital and, when advantageous, access to foreign cash in a tax efficient manner. Where local regulations limit an efficient intercompany transfer of amounts held outside of the U.S., TSYS will continue to utilize these funds for local liquidity needs. Under current law, balances available to be repatriated to the U.S. would be subject to U.S. federal income taxes, less applicable foreign tax credits. TSYS has provided for the U.S. federal tax liability on these amounts for financial statement purposes, except for foreign earnings that are considered permanently reinvested outside of the U.S. TSYS utilizes a variety of tax planning and financing strategies with the objective of having its worldwide cash available in the locations where it is needed.

Impact of Inflation

Although the impact of inflation on its operations cannot be precisely determined, the Company believes that by controlling its operating expenses and by taking advantage of more efficient computer hardware and software, it can minimize the impact of inflation.

Working Capital

TSYS may seek additional external sources of capital in the future. The form of any such financing will vary depending upon prevailing market and other conditions and may include short-term or long-term borrowings from financial institutions or the issuance of additional equity and/or debt securities such as industrial revenue bonds. However, there can be no assurance that funds will be available on terms acceptable to TSYS. Management expects that TSYS will continue to be able to fund a significant portion of its capital expenditure needs through internally generated cash in the future, as evidenced by TSYS' current ratio of 2.4:1. As of December 31, 2016, TSYS had working capital of $602.3 million, compared to $519.3 million in 2015 and $394.3 million in 2014.

Legal Proceedings

Refer to Note 15 in the Consolidated Financial Statements for information regarding the Company's commitments and contingencies including legal proceedings.

Forward-Looking Statements

Certain statements contained in this filing which are not statements of historical fact constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act (the Act). These forward-looking statements include, among others: (i) TSYS' expectation with respect to the effect of recent accounting pronouncements; (ii) TSYS' expectation with respect to the timing of deconversions; (iii) TSYS' expectation with respect to the potential impact of the CFPB's new rule pertaining to prepaid financial products on its Netspend business and the Company's future revenue and earnings, and Netspend's business expansion strategies; (iv) TSYS' expectation that it will be able to fund a significant portion of its capital expenditure needs through internally generated cash in the future; (v) TSYS' belief with respect to lawsuits, claims and other complaints; (vi) TSYS' expectation with respect to certain tax matters; (vii) the Board's intention to continue to pay cash dividends; and the assumptions underlying such statements. In addition, certain statements in future filings by TSYS with the Securities and Exchange Commission, in press releases, and in oral and written statements made by or with the approval of TSYS which 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, earnings or loss per share, the payment or nonpayment of dividends, capital structure and other financial items; (ii) statements of plans and objectives of TSYS or its management or Board of Directors, including those relating to products or services; (iii) statements of future economic performance; and (iv) statements of assumptions underlying such statements. Words such as "believes," "anticipates," "expects," "intends," "targeted," "estimates," "projects," "plans," "may," "could," "should," "would," and similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying these statements.

These statements are based upon the current beliefs and expectations of TSYS' management and are subject to significant risks and uncertainties. Actual results may differ materially from those contemplated by the forward-looking statements. A number of important factors could cause actual results to differ materially from those contemplated by the Company's forward-looking statements. Many of these factors are beyond TSYS' ability to control or predict. These factors include, but are not limited to:

- the material breach of security of any of TSYS' systems;
- TSYS incurs expenses associated with the signing of a significant client;
- organic growth rates for TSYS' existing clients are lower than anticipated whether as a result of unemployment rates, card delinquencies and charge off rates or otherwise or attrition rates of existing clients are higher than anticipated;
- conversions and deconverions of client portfolios may not occur as scheduled;
- risks associated with foreign operations, including adverse developments with respect to foreign currency exchange rates, and in particular with respect to the current environment, adverse developments with respect to foreign currency exchange rates as a result of the United Kingdom's decision to leave the European Union (Brexit);
- adverse developments with respect to entering into contracts with new clients and retaining current clients;
- consolidation in the financial services and other industries, including the merger of TSYS clients with entities that are not TSYS processing clients, the sale of portfolios by TSYS clients to entities that are not TSYS processing clients and financial institutions which are TSYS clients otherwise ceasing to exist;
- the impact of the Dodd-Frank Wall Street Reform and Consumer Protection Act on TSYS and its clients;
- adverse developments with respect to the payment card industry in general, including a decline in the use of cards as a payment mechanism;
- the impact of potential and completed acquisitions, particularly the completed TransFirst acquisition, including the costs associated therewith, their being more difficult to integrate than anticipated, and the inability to achieve the anticipated growth opportunities and other benefits of the acquisitions;
- the costs and effects of litigation, investigations or similar matters or adverse facts and developments relating thereto;

- the impact of the application of and/or changes in accounting principles;
- TSYS' inability to timely, successfully and cost-effectively improve and implement processing systems to provide new products, increased functionality and increased efficiencies;
- TSYS' reliance on financial institution sponsors;
- changes occur in laws, rules, regulations, credit card association rules, prepaid industry rules, or other industry standards affecting TSYS and its clients that may result in costly new compliance burdens on TSYS and its clients and lead to a decrease in the volume and/or number of transactions processed or limit the types and amounts of fees that can be charged to customers, and in particular the CFPB's new rule regarding prepaid financial products;
- the success of Netspend's business expansion strategies to offset the loss of revenue from the CFPB's new rule regarding prepaid financial products which will depend on, among other things, the rate of adoption of Netspend's new products both by consumers and its distribution partners, the rate of utilization of the various product features by cardholders and market and regulatory dynamics, and, in addition, the costs of compliance associated with the new rule;
- successfully managing the potential both for patent protection and patent liability in the context of rapidly developing legal framework for expansive patent protection;
- the effect of current domestic and worldwide economic and geopolitical conditions;
- the impact on TSYS' business, as well as on the risks set forth above, of various domestic or international military or terrorist activities or conflicts;
- other risk factors described in the "Risk Factors" and other sections of TSYS' Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and other filings with the Securities and Exchange Commission; and
- TSYS' ability to manage the foregoing and other risks.

These forward-looking statements speak only as of the date on which they are made and TSYS disclaims any obligation to update any forward-looking statement as a result of new information, future developments or otherwise except as required by law.

Subsequent Events

On February 3, 2017, the Company acquired an additional 10% equity interest in CPAY from a privately-owned company for $70.0 million. This purchase reduced the remaining redeemable noncontrolling interest in CPAY to 15% of its total outstanding equity and extended the put call arrangement until April 2018.

Management performed an evaluation of the Company's activity as of the date these audited financial statements were issued, and has concluded that, other than as set forth above, there are no significant subsequent events requiring disclosure.

Consolidated Balance Sheets

(in thousands, except per share data)	December 31, 2016	2015
Assets		
Current assets:		
Cash and cash equivalents (Note 4)	**$ 425,354**	389,328
Accounts receivable, net of allowances for doubtful accounts and billing adjustments of $4.8 million and $4.0 million as of 2016 and 2015, respectively	**432,847**	314,705
Prepaid expenses and other current assets (Note 5)	**164,488**	154,199
Total current assets	**1,022,689**	858,232
Goodwill (Note 6)	**3,270,952**	1,545,424
Other intangible assets, net of accumulated amortization of $420.6 million and $257.1 million as of 2016 and 2015, respectively (Note 7)	**906,676**	328,320
Computer software, net of accumulated amortization of $757.4 million and $680.6 million as of 2016 and 2015, respectively (Note 8)	**423,188**	405,070
Property and equipment, net of accumulated depreciation and amortization of $480.7 million and $457.3 million as of 2016 and 2015, respectively (Note 9)	**282,345**	289,898
Contract acquisition costs, net of accumulated amortization of $309.7 million and $287.9 million as of 2016 and 2015, respectively (Note 10)	**235,700**	247,811
Equity investments, net (Note 11)	**110,793**	106,118
Deferred income tax assets (Note 14)	**7,055**	6,242
Other assets	**106,779**	90,780
Total assets	**$6,366,177**	3,877,895
Liabilities		
Current liabilities:		
Accrued salaries and employee benefits	**$ 67,655**	66,594
Current portion of long-term borrowings (Note 12)	**48,040**	50,078
Accounts payable	**38,712**	52,213
Current portion of obligations under capital leases (Note 12)	**2,687**	3,468
Other current liabilities (Note 13)	**263,259**	166,579
Total current liabilities	**420,353**	338,932
Long-term borrowings, excluding current portion (Note 12)	**3,312,215**	1,373,878
Deferred income tax liabilities (Note 14)	**419,552**	192,444
Obligations under capital leases, excluding current portion (Note 12)	**1,061**	3,663
Other long-term liabilities	**88,983**	96,886
Total liabilities	**4,242,164**	2,005,803
Redeemable noncontrolling interest in consolidated subsidiary	**24,093**	23,410
Commitments and contingencies (Note 15)		
Equity		
Shareholders' equity: (Notes 17, 18, 19 and 20)		
Common stock — $0.10 par value. Authorized 600,000 shares; 202,765 and 202,769 issued as of 2016 and 2015 respectively; 183,451 and 182,781 outstanding as of 2016 and 2015, respectively	**20,276**	20,277
Additional paid-in capital	**279,627**	241,891
Accumulated other comprehensive loss, net (Note 20)	**(56,158)**	(33,544)
Treasury stock, at cost (19,314 and 19,988 shares as of 2016 and 2015, respectively)	**(646,047)**	(641,664)
Retained earnings	**2,502,222**	2,256,058
Total shareholders' equity	**2,099,920**	1,843,018
Noncontrolling interest in consolidated subsidiary	**—**	5,664
Total equity	**2,099,920**	1,848,682
Total liabilities and equity	**$6,366,177**	3,877,895

See accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Income

(in thousands, except per share data)	Years Ended December 31, 2016	2015	2014
Total revenues (Note 21)	**$4,170,077**	2,779,541	2,446,877
Cost of services	**2,993,062**	1,855,181	1,668,892
Selling, general and administrative expenses	**603,633**	390,253	346,345
Total operating expenses	**3,596,695**	2,245,434	2,015,237
Operating income	**573,382**	534,107	431,640
Nonoperating expenses, net	**(112,168)**	(37,219)	(38,711)
Income before income taxes and equity in income of equity investments	**461,214**	496,888	392,929
Income taxes (Note 14)	**161,175**	151,364	129,761
Income before equity in income of equity investments	**300,039**	345,524	263,168
Equity in income of equity investments, net of tax (Note 11)	**25,933**	22,106	17,583
Income from continuing operations, net of tax	**325,972**	367,630	280,751
Income from discontinued operations, net of tax	**—**	1,411	48,655
Net income	**$ 325,972**	369,041	329,406
Net income attributable to noncontrolling interests	**(6,334)**	(4,997)	(6,534)
Net income attributable to Total System Services, Inc. (TSYS) common shareholders	**$ 319,638**	364,044	322,872
Basic earnings per share (EPS) attributable to TSYS common shareholders (Note 25)			
Income from continuing operations to TSYS common shareholders	**$ 1.74**	1.97	1.48
Gain from discontinued operations to TSYS common shareholders	**—**	0.01	0.26
Net income attributable to TSYS common shareholders[1]	**$ 1.74**	1.98	1.73
Diluted EPS attributable to TSYS common shareholders (Note 25)			
Income from continuing operations to TSYS common shareholders	**$ 1.73**	1.96	1.47
Gain from discontinued operations to TSYS common shareholders	**—**	0.01	0.25
Net income attributable to TSYS common shareholders[1]	**$ 1.73**	1.97	1.72
Amounts attributable to TSYS common shareholders:			
Income from continuing operations	**$ 319,638**	362,633	275,216
Gain from discontinued operations	**—**	1,411	47,656
Net income	**$ 319,638**	364,044	322,872

[1] *EPS amounts may not total due to rounding*

See accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Comprehensive Income

(in thousands)	Years Ended December 31, **2016**	2015	2014
Net income	**$325,972**	369,041	329,406
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	**(30,801)**	(21,719)	(19,531)
Less reclassifications of foreign currency translation adjustments to net income	**—**	—	3,514
Total foreign currency translation adjustments	**(30,801)**	(21,719)	(16,017)
Postretirement healthcare plan adjustments	**496**	(1,567)	589
Unrealized gain (loss) on available-for-sale securities	**7,359**	1,398	(668)
Other comprehensive loss	**(22,946)**	(21,888)	(16,096)
Comprehensive income	**$303,026**	347,153	313,310
Comprehensive income attributable to noncontrolling interests	**(6,002)**	(4,727)	(6,113)
Comprehensive income attributable to TSYS common shareholders	**$297,024**	342,426	307,197

See accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Cash Flows

(in thousands)	Years Ended December 31, 2016	2015	2014
Cash flows from operating activities:			
Net income	$ **325,972**	369,041	329,406
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	**373,546**	258,264	248,018
Provisions for cardholder losses	**49,362**	41,264	38,381
Share-based compensation	**43,728**	41,549	30,790
Dividends received from equity investments	**15,246**	12,097	9,189
Amortization of debt issuance costs	**13,570**	1,841	1,817
Provisions for bad debt expenses, billing adjustments and merchant losses	**7,584**	4,495	2,823
Deferred income tax (benefit) expense	**7,435**	(4,083)	(8,963)
Charges for transaction processing provisions	**5,351**	6,976	9,468
Loss (gain) on disposal of equipment, net	**774**	(397)	(293)
Amortization of bond discount	**750**	397	383
Gain on disposal of subsidiaries	**—**	(3,568)	(86,961)
Changes in value of private equity investments	**(811)**	(4,038)	(793)
(Gain) loss on foreign currency	**(1,748)**	388	999
Excess tax benefit from share-based payment arrangements	**(9,905)**	(24,357)	(7,185)
Equity in income of equity investments, net of tax	**(25,933)**	(22,106)	(17,583)
Changes in operating assets and liabilities, net of effect of acquisition:			
Accounts receivable	**(73,235)**	(39,218)	(33,406)
Prepaid expenses, other current assets and other long-term assets	**(57,835)**	(8,498)	(10,525)
Accounts payable	**(12,562)**	(3,987)	8,765
Accrued salaries and employee benefits	**(2,597)**	29,168	414
Other current liabilities and other long-term liabilities	**59,217**	(55,034)	45,457
Net cash provided by operating activities	**717,909**	600,194	560,201
Cash flows from investing activities:			
Cash used in acquisitions, net of cash acquired	**(2,345,493)**	(750)	(38,584)
Purchases of property and equipment	**(51,132)**	(54,640)	(75,913)
Additions to contract acquisition costs	**(45,847)**	(58,728)	(88,871)
Additions to internally developed computer software	**(34,043)**	(39,219)	(41,501)
Additions to licensed computer software from vendors	**(11,551)**	(50,729)	(29,638)
Purchase of private equity investments	**(4,930)**	(3,525)	(3,291)
Proceeds from insurance recovery for loss on disposal	**—**	—	6,212
Proceeds from dispositions, net of expenses paid and cash disposed	**—**	3,568	44,979
Proceeds from sale of private equity investment	**120**	1,839	—
Net cash used in investing activities	**(2,492,876)**	(202,184)	(226,607)
Cash flows from financing activities:			
Proceeds from long-term borrowings	**2,666,295**	1,912	1,396
Proceeds from exercise of stock options	**11,708**	58,636	34,869
Excess tax benefit from share-based payment arrangements	**9,905**	24,357	7,185
Subsidiary dividends paid to noncontrolling shareholders	**(5,548)**	(5,028)	(7,172)
Purchase of noncontrolling interests	**(5,878)**	—	(37,500)
Debt issuance costs	**(26,555)**	—	—
Repurchases of common stock under plans and tax withholding	**(30,275)**	(242,235)	(170,516)
Dividends paid on common stock	**(73,378)**	(73,677)	(74,796)
Principal payments on long-term borrowings and capital lease obligations	**(724,084)**	(54,719)	(69,939)
Net cash provided by (used in) financing activities	**1,822,190**	(290,754)	(316,473)
Cash and cash equivalents:			
Effect of exchange rate changes on cash and cash equivalents	**(11,197)**	(7,111)	(6,168)
Net increase in cash and cash equivalents	**36,026**	100,145	10,953
Cash and cash equivalents at beginning of period	**389,328**	289,183	278,230
Cash and cash equivalents at end of period	$ **425,354**	389,328	289,183
Supplemental cash flow information:			
Interest paid	$ **84,420**	40,425	40,969
Income taxes paid, net	$ **87,428**	171,455	135,770

See accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Changes in Equity

(in thousands, except per share data)	Redeemable Noncontrolling Interests	TSYS Shareholders: Common Stock Shares	Common Stock Dollars	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Retained Earnings	Noncontrolling Interests	Total Equity
Balance as of December 31, 2013	$ 39,652	202,790	$ 20,279	165,841	3,749	(326,996)	1,718,204	21,349	$ 1,602,426
Net income	4,650	—	—	—	—	—	322,872	1,884	324,756
Other comprehensive income (Note 20)	—	—	—	—	(15,675)	—	—	(421)	(16,096)
Common stock issued from treasury shares for exercise of stock options (Note 18)	—	—	—	1,955	—	32,914	—	—	34,869
Common stock unissued due to forfeiture of nonvested awards	—	(15)	(1)	1	—	—	—	—	—
Common stock issued from treasury shares for nonvested awards (Note 18)	—	—	—	(11,142)	—	11,142	—	—	—
Share-based compensation (Note 18)	—	—	—	30,312	—	—	—	—	30,312
Common stock issued from treasury shares for dividend equivalents (Note 18)	—	—	—	185	—	226	—	—	411
Cash dividends declared ($0.40 per share)	—	—	—	—	—	—	(74,706)	—	(74,706)
Purchase of treasury shares (Note 19)	—	—	—	—	—	(170,516)	—	—	(170,516)
Subsidiary dividends paid to noncontrolling interests	(6,732)	—	—	—	—	—	—	(440)	(440)
Fair value of noncontrolling interest	(15,078)	—	—	(22,422)	—	—	—	—	(22,422)
Disposition of noncontrolling interest (Note 2)	—	—	—	—	—	—	—	(15,490)	(15,490)
Tax benefits associated with share-based compensation	—	—	—	6,540	—	—	—	—	6,540
Balance as of December 31, 2014	22,492	202,775	20,278	171,270	(11,926)	(453,230)	1,966,370	6,882	1,699,644
Net income	5,945	—	—	—	—	—	364,044	(948)	363,096
Other comprehensive income (Note 20)	—	—	—	—	(21,618)	—		(270)	(21,888)
Common stock issued from treasury shares for exercise of stock options (Note 18)	—	—	—	12,273	—	46,363	—	—	58,636
Common stock unissued due to forfeiture of nonvested awards	—	(6)	(1)	702	—	(701)	—	—	—
Common stock issued from treasury shares for nonvested awards (Note 18)	—	—	—	(7,982)	—	7,982	—	—	—
Share-based compensation (Note 18)	—	—	—	41,179	—	—	—	—	41,179
Common stock issued from treasury shares for dividend equivalents (Note 18)	—	—	—	186	—	163	—	—	349
Cash dividends declared ($0.40 per share)	—	—	—	—	—	—	(74,356)	—	(74,356)
Purchase of treasury shares (Note 19)	—	—	—	6	—	(242,241)	—	—	(242,235)
Subsidiary dividends paid to noncontrolling interests	(5,027)	—	—	—	—	—	—	—	—
Tax benefits associated with share-based compensation	—	—	—	24,257	—	—	—	—	24,257
Balance as of December 31, 2015	23,410	202,769	20,277	241,891	(33,544)	(641,664)	2,256,058	5,664	1,848,682
Net income	**6,231**	—	—	—	—	—	**319,638**	**103**	**319,741**
Other comprehensive income (Note 20)	—	—	—	—	**(22,614)**	—	—	**(332)**	**(22,946)**
Common stock issued from treasury shares for exercise of stock options (Note 18)	—	—	—	**1,824**	—	**9,884**	—	—	**11,708**
Common stock unissued due to forfeiture of nonvested awards	—	**(4)**	**(1)**	**1,197**	—	**(1,196)**	—	—	—
Common stock issued from treasury shares for nonvested awards (Note 18)	—	—	—	**(17,204)**	—	**17,204**	—	—	—
Share-based compensation (Note 18)	—	—	—	**42,457**	—	—	—	—	**42,457**
Cash dividends declared ($0.40 per share)	—	—	—	—	—	—	**(73,474)**	—	**(73,474)**
Purchase of treasury shares (Note 19)	—	—	—	—	—	**(30,275)**	—	—	**(30,275)**
Subsidiary repurchase of noncontrolling interests	—	—	—	**(443)**	—	—	—	**(5,435)**	**(5,878)**
Subsidiary dividends paid to noncontrolling interests	**(5,548)**	—	—	—	—	—	—	—	—
Tax benefits associated with share-based compensation	—	—	—	**9,905**	—	—	—	—	**9,905**
Balance as of December 31, 2016	**$ 24,093**	**202,765**	**$20,276**	**279,627**	**(56,158)**	**(646,047)**	**2,502,222**	—	**$2,099,920**

See accompanying Notes to Consolidated Financial Statements

Notes to Consolidated Financial Statements

Note 1: Basis of Presentation and Summary of Significant Accounting Policies

BUSINESS: Total System Services, Inc.'s (TSYS' or the Company's) revenues are derived from providing payment processing, merchant services and related payment services to financial and nonfinancial institutions, generally under long-term processing contracts. The Company also derives revenues by providing general-purpose reloadable (GPR) prepaid debit cards and payroll cards and alternative financial services to underbanked and other consumers. The Company's services are provided through four operating segments: North America Services, International Services, Merchant Services and Netspend.

Through the Company's North America Services and International Services segments, TSYS processes information through its cardholder systems to financial and nonfinancial institutions throughout the United States and internationally. The Company's North America Services segment provides these services to clients in the United States, Canada, Mexico and the Caribbean. The Company's International Services segment provides services to clients in Europe, India, Middle East, Africa, Asia Pacific and Latin America. The Company's Merchant Services segment provides merchant services to merchant acquirers and merchants mainly in the United States. The Company's Netspend segment provides services to consumers in the United States.

PRINCIPLES OF CONSOLIDATION AND BASIS OF PRESENTATION: The accompanying consolidated financial statements, which are prepared in accordance with generally accepted accounting principles (GAAP) include the accounts of TSYS and its wholly- and majority-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. In addition, the Company evaluates its relationships with other entities to identify whether they are variable interest entities and to assess whether it is the primary beneficiary of such entities. If the determination is made that the Company is the primary beneficiary, then that entity is included in the consolidated financial statements.

RISKS AND UNCERTAINTIES AND USE OF ESTIMATES: Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, lower than anticipated growth from existing clients, an inability to attract new clients and grow internationally, loss of a major customer or other significant client, loss of a major supplier, an inability to grow through acquisitions or successfully integrate acquisitions, an inability to control expenses, technology changes, the impact of the application of and/or changes in accounting principles, financial services consolidation, changes in regulatory requirements, a decline in the use of cards as a payment mechanism, disruption of the Company's international operations, breach of the Company's security systems, a decline in the financial stability of the Company's clients and uncertain economic conditions. Negative developments in these or other risk factors could have a material adverse effect on the Company's financial position, results of operations and cash flows.

The Company has prepared the accompanying consolidated financial statements in conformity with U.S. GAAP. The preparation of the consolidated financial statements requires management of the Company to make a number of estimates and assumptions relating to the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the period. These estimates and assumptions are developed based upon all information available. Actual results could differ from estimated amounts.

ACQUISITIONS — PURCHASE PRICE ALLOCATION: TSYS' purchase price allocation methodology requires the Company to make assumptions and to apply judgment to estimate the fair value of acquired assets and liabilities. TSYS estimates the fair value of assets and liabilities based upon appraised market values, the carrying value of the acquired assets and widely accepted valuation techniques, including the cost approach, discounted cash flows and market multiple analyses. Management determines the fair value of fixed assets and identifiable intangible assets such as developed technology or customer relationships, and any other significant assets or liabilities. TSYS adjusts the purchase price allocation, as necessary, up to one year after the acquisition closing date as TSYS obtains more information regarding asset valuations and liabilities assumed. Unanticipated events or circumstances may occur which could affect the accuracy of the Company's fair value estimates, including assumptions regarding industry economic factors and business strategies, and may result in an impairment or a new allocation of purchase price.

TSYS may allocate part of the purchase price of future acquisitions to contingent consideration as required by GAAP for business combinations. The fair value calculation of contingent consideration will involve a number of assumptions that are subjective in nature and which may differ significantly from actual results. TSYS may experience volatility in its earnings to some degree in future reporting periods as a result of these fair value measurements.

CASH AND CASH EQUIVALENTS: Cash on hand and investments with a maturity of three months or less when purchased are considered to be cash equivalents.

ACCOUNTS RECEIVABLE: Accounts receivable balances are stated net of allowances for doubtful accounts and billing adjustments.

TSYS records an allowance for doubtful accounts when it is probable that the accounts receivable balance will not be collected. When estimating the allowance for doubtful accounts, the Company takes into consideration such factors as its day-to-day knowledge of the financial position of specific clients, the industry and size of its clients, the overall composition of its accounts receivable aging, prior history with specific customers of accounts receivable write-offs and prior experience of allowances in proportion to the overall receivable balance. This analysis includes an ongoing and continuous communication with its largest clients and those clients with past due balances. A financial decline of any one of the Company's large clients could have a material adverse effect on collectability of receivables and thus the adequacy of the allowance for doubtful accounts.

Increases in the allowance for doubtful accounts are recorded as charges to bad debt expense and are reflected in selling, general and administrative expenses in the Company's Consolidated Statements of Income. Write-offs of uncollectible accounts are charged against the allowance for doubtful accounts.

TSYS records an allowance for billing adjustments for actual and potential billing discrepancies. When estimating the allowance for billing adjustments, the Company considers its overall history of billing adjustments, as well as its history with specific clients and known disputes. Increases in the allowance for billing adjustments are recorded as a reduction of revenues in the Company's Consolidated Statements of Income and actual adjustments to invoices are charged against the allowance for billing adjustments.

UP-FRONT DISTRIBUTOR PAYMENTS: The Company makes up-front contractual payments to third-party distribution partners. The Company assesses each up-front payment to determine whether it meets the criteria of an asset as defined by U.S. GAAP. If these criteria are met, the Company capitalizes the up-front payment and recognizes the capitalized amount as expense ratably over the benefit period, which is generally the contract period. If the contract requires the distributor to perform specific acts (i.e., achieve a sales goal) and no other conditions exist for the distributor to earn or retain the up-front payment, then the Company capitalizes the payment and recognizes it as an expense when the performance conditions have been met. Up-front distributor payments are classified on the Consolidated Balance Sheet as other non-current assets and recorded as a cost of services in the Consolidated Statements of Income.

PROPERTY AND EQUIPMENT: Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Buildings and improvements are depreciated over estimated useful lives of 5-40 years, computer and other equipment over estimated useful lives of 2-5 years, and furniture and other equipment over estimated useful lives of 3-15 years. The Company evaluates impairment losses on long-lived assets used in operations in accordance with the provisions of GAAP. All ordinary repairs and maintenance costs are expensed as incurred. Maintenance costs that extend the asset life are capitalized and amortized over the remaining estimated life of the asset.

LICENSED COMPUTER SOFTWARE: The Company licenses software that is used in providing services to clients. Licensed software is obtained through perpetual licenses, term licenses, site licenses and through agreements based on processing capacity. Perpetual and site licenses are amortized using the straight-line method over their estimated useful lives which range from three to ten years. Term licenses are amortized over the term of the agreement. Mainframe software that is licensed based on processing capacity is amortized using a units-of-production basis over the estimated useful life of the software, generally not to exceed ten years. At each balance sheet date, the Company evaluates impairment losses on long-lived assets used in operations in accordance with GAAP.

ACQUISITION TECHNOLOGY INTANGIBLES: These identifiable intangible assets are software technology assets resulting from acquisitions. These assets are amortized using the straight-line method over periods not exceeding their estimated useful lives, which range from five to nine years. GAAP requires that intangible assets with estimated useful lives be amortized over their respective estimated useful lives to their residual values, and reviewed for impairment. Acquisition technology intangibles' net book values are included in computer software, net in the accompanying balance sheets. Amortization expenses are charged to cost of services in the Company's Consolidated Statements of Income.

SOFTWARE DEVELOPMENT COSTS: Software development costs are capitalized once technological feasibility of the software product has been established. Costs incurred prior to establishing technological feasibility are expensed as incurred. Technological feasibility is established when the Company has completed a detailed program design and has determined that a product can be produced to meet its design specifications, including functions, features and technical performance requirements. Capitalization of costs ceases when the product is generally available to clients. In evaluating software development costs for recoverability, expected cash flows are estimated by management should events indicate a loss may have been triggered. The Company evaluates the unamortized capitalized costs of software development, the impairment of which is determined by expected undiscounted future operating cash flows of the software as compared to the carrying amount of the software product. The amount by which the unamortized software development costs exceed the lower of the

carrying amount or fair value is written off in the period that such determination is made. If the actual cash flows are not consistent with the Company's estimates, a material write-off may result and net income may be materially different than was initially recorded. Assumptions and estimates about future cash flows and remaining useful lives of software are complex and subjective. They can be affected by a variety of factors, including industry and economic trends, changes in the Company's business strategy and changes in the internal forecasts. The amount by which the unamortized software development costs exceed the net realizable value is written off in the period that such determination is made. Software development costs are amortized using the straight-line method over its estimated useful life, which ranges from three to ten years.

The Company also develops software that is used internally. These software development costs are capitalized in accordance with GAAP. Internal-use software development costs are capitalized once: (1) the preliminary project stage is completed, (2) management authorizes and commits to funding a computer software project, and (3) it is probable that the project will be completed and the software will be used to perform the function intended. Costs incurred prior to meeting the qualifications are expensed as incurred. Capitalization of costs ceases when the project is substantially complete and ready for its intended use. Internal-use software development costs are amortized using the straight-line method over its estimated useful life which ranges from three to ten years. Software development costs may become impaired in situations where development efforts are abandoned due to the viability of the planned project becoming doubtful or due to technological obsolescence of the planned software product.

CONTRACT ACQUISITION COSTS: The Company capitalizes contract acquisition costs related to signing or renewing long-term contracts and costs related to cash payments for rights to provide processing services. The Company capitalizes internal conversion costs in accordance with GAAP. All costs incurred prior to a signed agreement are expensed as incurred.

Contract acquisition costs are amortized using the straight-line method over the expected customer relationship (contract term) beginning when the client's cardholder accounts are converted and producing revenues. The amortization of contract acquisition costs associated with cash payments for client incentives is included as a reduction of revenues in the Company's Consolidated Statements of Income. The amortization of contract acquisition costs associated with conversion activity is recorded as cost of services in the Company's Consolidated Statements of Income.

In evaluating contract acquisition costs for recoverability, expected cash flows are estimated by management should events indicate a loss may have been triggered. The Company evaluates the carrying value of contract acquisition costs associated with each customer for impairment on the basis of whether these costs are fully recoverable from either contractual minimum fees (conversion costs) or from expected undiscounted net operating cash flows of the related contract (cash incentives paid). The determination of expected undiscounted net operating cash flows requires management to make estimates. If the actual cash flows are not consistent with the Company's estimates, a material impairment charge may result and net income may be materially different than was initially recorded. These costs may become impaired with the loss of a contract, the financial decline of a client, termination of conversion efforts after a contract is signed, diminished prospects for current clients or if the Company's actual results differ from its estimates of future cash flows. The amount of the impairment is written off in the period that such a determination is made.

EQUITY METHOD INVESTMENTS: TSYS' 49% investment in Total System Services de México, S.A. de C.V. (TSYS de México), an electronic payment processing support operation located in Toluca, México, is accounted for using the equity method of accounting, as is TSYS' 44.56% investment in China UnionPay Data Co., Ltd. (CUP Data) headquartered in Shanghai, China. TSYS' equity investments are recorded initially at cost and subsequently adjusted for equity in earnings, cash contributions and distributions, and foreign currency translation adjustments.

GOODWILL: Goodwill results from the excess of cost over the fair value of net assets of businesses acquired. Goodwill and intangible assets with indefinite useful lives are tested for impairment at least annually. Intangible assets with estimable useful lives are amortized over their respective estimated useful lives to their estimated residual values. Equity investment goodwill, which is not reported as goodwill in the Company's Consolidated Balance Sheet, but is reported as a component of the equity investment, was $46.1 million as of December 31, 2016.

OTHER INTANGIBLE ASSETS: Identifiable intangible assets relate primarily to customer relationships, databases, channel relationships, covenants-not-to-compete, trade names and trade associations resulting from acquisitions. These identifiable intangible assets are amortized using the straight-line method over periods not exceeding the estimated useful lives, which range from three to ten years. Intangible assets with estimable useful lives are amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment in accordance with GAAP. Amortization expenses are charged to selling, general and administrative expenses in the Company's Consolidated Statements of Income.

FAIR VALUES OF FINANCIAL INSTRUMENTS: The Company uses financial instruments in the normal course of its business. The carrying values of cash equivalents, accounts receivable, accounts payable, accrued salaries and employee benefits, and other current liabilities approximate their fair value due to the short-term maturities of these assets and liabilities. The fair value of the Company's long-term debt and obligations under capital leases is not significantly different from its carrying value.

Investments in equity method investments are accounted for using the equity method of accounting and pertain to privately held companies. The Company believes the fair values of its investments in equity method investments exceed their respective carrying values.

IMPAIRMENT OF LONG-LIVED ASSETS: The Company reviews long-lived assets, such as property and equipment and intangibles subject to amortization, including contract acquisition costs and certain computer software, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If upon a triggering event the Company determines that the carrying amount of an asset exceeds its estimated undiscounted future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of would be separately presented in the balance sheet and reported at the lower of the carrying amount or fair value less costs to sell, and would no longer be depreciated. The assets and liabilities of a disposed group classified as held for sale would be presented separately in the appropriate asset and liability sections of the balance sheet.

TRANSACTION PROCESSING PROVISIONS: The Company has recorded an accrual for contract contingencies (performance penalties) and processing errors. A significant number of the Company's contracts with large clients contain service level agreements which can result in TSYS incurring performance penalties if contractually required service levels are not met. When providing for these accruals, the Company takes into consideration such factors as the prior history of performance penalties and processing errors incurred, actual contractual penalties inherent in the Company's contracts, progress towards milestones and known processing errors not covered by insurance. As of December 31, 2016, the Company had transaction processing provisions of $2.9 million. These accruals are included in other current liabilities in the accompanying Consolidated Balance Sheets. Increases and decreases in transaction processing provisions are charged to cost of services in the Company's Consolidated Statements of Income, and payments or credits for performance penalties and processing errors are charged against the accrual.

PROVISION FOR CARDHOLDER LOSSES: The Company is exposed to losses due to cardholder fraud, payment defaults and other forms of cardholder activity as well as losses due to non-performance of third parties who receive cardholder funds for transmittal to the Issuing Banks (banks that issue Mastercard International or Visa USA, Inc. branded cards to customers). The Company establishes a reserve for the losses it estimates will arise from processing customer transactions, debit card overdrafts, chargebacks for unauthorized card use and merchant-related chargebacks due to non-delivery of goods and services. These reserves are established based upon historical loss and recovery rates and cardholder activity for which specific losses can be identified. The provision for cardholder losses was approximately $10.5 million as of December 31, 2016. The charges to provisions for cardholder losses are included in cost of services in the Consolidated Statements of Income and other current liabilities in the Consolidated Balance Sheets. The Company regularly updates its reserve estimate as new facts become known and events occur that may impact the settlement or recovery of losses.

PROVISION FOR MERCHANT LOSSES: The Company has potential liability for losses resulting from disputes between a cardholder and a merchant that arise as a result of, among other things, the cardholder's dissatisfaction with merchandise quality or merchant services. Such disputes may not be resolved in the merchant's favor. In these cases, the transaction is "charged back" to the merchant, which means the purchase price is refunded to the customer by the card-issuing bank and charged to the merchant. If the merchant is unable to fund the refund, TSYS must do so. TSYS also bears the risk of reject losses arising from the fact that TSYS collects fees from its merchants after the monthly billing period. If the merchant has gone out of business during such period, TSYS may be unable to collect such fees. TSYS maintains cash deposits or requires the pledge of a letter of credit from certain merchants, generally those with higher average transaction size where the card is not present when the charge is made or the product or service is delivered after the charge is made, in order to offset potential contingent liabilities such as chargebacks and reject losses that would arise if the merchant went out of business. Most chargeback and reject losses are charged to cost of services as they are incurred. However, the Company also maintains a provision against losses, including major fraud losses, which are both less predictable and involve larger amounts. The loss provision was established using historical loss rates, applied to recent bankcard processing volume. As of December 31, 2016, the Company had a merchant loss provision in the amount of $2.0 million.

REDEEMABLE NONCONTROLLING INTEREST: In connection with the acquisition of Central Payment Co., LLC (CPAY), the Company is party to call and put arrangements with respect to the membership units that represent the remaining noncontrolling interest of CPAY. The call arrangement is exercisable by TSYS and the put arrangement is exercisable by the seller. The put arrangement is outside the control of the Company by requiring the Company to purchase the seller's entire equity interest in CPAY at a put price at fair value. The put arrangement is recorded on the balance sheet and is classified as redeemable noncontrolling interest outside of permanent equity.

FOREIGN CURRENCY TRANSLATION: The Company maintains several different foreign operations whose functional currency is their local currency. Foreign currency financial statements of the Company's Mexican and Chinese equity investments, the Company's wholly owned subsidiaries and the Company's majority owned subsidiaries, as well as the Company's division and branches in the United Kingdom and China, are translated into U.S. dollars at current exchange rates, except for revenues, costs and expenses, and net income which are translated at the average exchange rates for each reporting period. Net gains or losses resulting from the currency translation of assets and liabilities of the Company's foreign operations, net of tax when applicable, are accumulated in a separate section of shareholders' equity titled accumulated other comprehensive income (loss). Gains and losses on transactions denominated in currencies other than the functional currencies are included in determining net income for the period in which exchange rates change.

TREASURY STOCK: The Company uses the cost method when it purchases its own common stock as treasury shares or issues treasury stock upon option exercises and displays treasury stock as a reduction of shareholders' equity.

REVENUE RECOGNITION: Revenue is recognized when it is realized or realizable and earned, which is deemed to occur when all of the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been performed; (3) the seller's price to the buyer is fixed or determinable; and (4) collectability is reasonably assured. The Company accrues for rights of refund, processing errors or penalties, or other related allowances based on historical experience.

The Company's North America and International Services revenues are derived from long-term processing contracts with financial and nonfinancial institutions and are generally recognized as the services are performed. Payment processing services revenues are generated primarily from charges based on the number of accounts on file, transactions and authorizations processed, statements mailed, cards embossed and mailed and other processing services for cardholder accounts on file. Most of these contracts have prescribed annual revenue minimums, penalties for early termination, and service level agreements which may impact contractual fees if certain service levels are not achieved.

Revenue is recognized as the services are performed, primarily on a per unit basis. Processing contracts generally range from three to ten years in length. When providing payment processing services, the Company frequently enters into customer arrangements to provide multiple services that may also include conversion or implementation services, business process outsourcing services such as call center services, web-based services, and other payment processing-related services. Revenue for these services is generally recognized as they are performed on a per unit basis each month or ratably over the term of the contract.

The Company's Merchant Services revenues are partially derived from relationships with thousands of individual merchants. Additionally, part of the revenues are derived from long-term processing contracts with large financial institutions, other merchant acquirers and merchant organizations which generally range from three to eight years and provide for penalties for early termination. Merchant services revenue is generated primarily from processing all payment forms including credit, debit and electronic benefits transfer for merchants of all sizes across a wide array of retail market segments. The products and services offered include authorization and capture of electronic transactions, clearing and settlement of electronic transactions, information reporting services related to electronic transactions, merchant billing services, and point-of-sale terminal services. Revenue is recognized for merchant services as those services are performed, primarily measured on a per unit basis. When providing merchant processing services, the Company frequently enters into customer arrangements to provide multiple services that may also include conversion or implementation services, business process outsourcing services such as call center services, terminal services, and other merchant processing-related services. Revenue for these services is generally recognized as they are performed on a per unit basis each month or ratably over the term of the contract. Revenues on point-of-sale terminal equipment are recognized upon the transfer of ownership and shipment of product.

With the acquisition of TransFirst Holdings Corp. (TransFirst) on April 1, 2016, TSYS included TransFirst's results as part of the Merchant Services segment. TransFirst's revenues are reported gross, which includes amounts paid for interchange and assessments, as TransFirst is the principal in the contractual relationship with its customers. Expenses covering interchange and assessment fees are included in TransFirst's cost of services and are directly attributable to processing fee revenues and are recognized in the same period as the related revenue.

When a sale involves multiple deliverables, revenue recognition is affected by the determination of the number of deliverables in an arrangement, whether those deliverables may be separated into multiple units of accounting, and the standalone selling price of each unit of accounting which affects the amount of revenue allocated to each unit. Pursuant to Accounting Standards Codification (ASC) 605, the Company uses vendor-specific objective evidence of the standalone selling price (VSOE) of its services when it exists to determine the amount of revenue to allocate to each unit of accounting. The Company establishes VSOE using the price charged when the same service is sold separately (on a standalone basis). In certain situations, the Company does not have sufficient VSOE. In these situations, TSYS considers whether sufficient third party evidence (TPE) of standalone selling price exists for the Company's services. However, the Company typically is not able to determine TPE and has not used this measure of selling price due to the unique and proprietary nature of some of its services and the inability to reliably verify relevant standalone third party prices. When there is insufficient evidence of VSOE and TPE, the Company has

made its best estimate of the standalone selling price (ESP) of that service for purposes of allocating revenue to each unit of accounting. When determining ESP, TSYS uses limited standalone sales data that do not meet the Company's criteria to establish VSOE, management pricing strategies, residual selling price data when VSOE exists for a group of elements, the cost of providing the services and the related margin objectives. Consideration is also given to geographies in which the services are sold or delivered, customer classifications, and market conditions including competitor pricing strategies and benchmarking studies. Revenue is recognized when the revenue recognition criteria for each unit of accounting have been met.

As business and service offerings change in the future, the determination of the number of deliverables in an arrangement and related units of accounting and the future pricing practices may result in changes in the estimates of VSOE and ESP, which may change the ratio of fees allocated to each service or unit of accounting in a given customer arrangement. There were no material changes or impact to revenue for current contractual arrangements during the years ended December 31, 2016, 2015 and 2014 due to any changes in the determination of the number of deliverables in an arrangement, units of accounting, or estimates of VSOE or ESP.

In many situations, the Company enters into arrangements with customers to provide conversion or implementation services in addition to processing services where the conversion or implementation services do not have standalone value. For these arrangements, conversion or implementation services that do not have standalone value, are recognized over the expected customer relationship (contract term) as the related processing services are performed.

The Company's other services generally have standalone value and constitute separate units of accounting for revenue recognition purposes. Customer arrangements entered into prior to 2011 (prior to the adoption of Accounting Standards Update (ASU) 2009-13 "*Multiple-Deliverable Revenue Arrangements*," an update to ASC Topic 605 "*Revenue Recognition*," and formerly known as EITF 08-1, "*Revenue Arrangements with Multiple Deliverables*") often included services for which sufficient objective and reliable evidence of fair value did not exist. In these situations, the deliverables were combined and recognized as a single unit of accounting based on the proportional performance for the combined unit. For pre-2011 arrangements that have not expired, have not been materially modified or amended, or terminated, the Company continues to recognize revenue in accordance with these policies in the accompanying financial statements. Beginning in 2011, services in new or materially modified arrangements of this nature were divided into separate units of accounting and revenue is now allocated to each unit of accounting based on the relative selling price method as disclosed above. As the services in the pre-2011 arrangements are generally delivered over the same term with consistent patterns of performance, there is no material difference in the timing or pattern of revenue recognition for each group of arrangements (pre-2011 arrangements and those new or materially modified thereafter).

The Company's multiple element arrangements may include one or more elements that are subject to other topics including software revenue recognition and leasing guidance. The consideration for these multiple element arrangements is allocated to each group of deliverables — those subject to ASC 605-25 and those subject to other topics based on the revised guidance in ASU 2009-13. Arrangement revenue for each group of deliverables is then further separated, allocated, and recognized based on applicable guidance.

The Company's Netspend revenues principally consist of a portion of the service fees and interchange revenues received by the Issuing Banks in connection with the programs Netspend manages. Revenue is recognized when there is persuasive evidence of an arrangement, the relevant services have been rendered, the price is fixed or determinable and collectability is reasonably assured.

Cardholders are charged fees in connection with Netspend's products and services as follows:

- Transactions — Cardholders are typically charged a fee for each PIN and signature-based purchase transaction made using their GPR cards, unless the cardholder is on a monthly or annual service plan, in which case the cardholder is instead charged a monthly or annual subscription fee, as applicable. Cardholders are also charged fees for ATM withdrawals and other transactions conducted at ATMs.
- Customer Service and Maintenance — Cardholders are typically charged fees for balance inquiries made through Netspend's call centers. Cardholders are also charged a monthly maintenance fee after a specified period of inactivity.
- Additional Products and Services — Cardholders are charged fees associated with additional products and services offered in connection with certain GPR cards, including the use of overdraft features, a variety of bill payment options, custom card designs and card-to-card transfers of funds initiated through the call centers.

- Other — Cardholders are charged fees in connection with the acquisition and reloading of the GPR cards at retailers and the Company receives a portion of these amounts in some cases.

Revenue resulting from the service fees charged to the cardholders described above is recognized when the fees are charged because the earnings process is substantially complete, except for revenue resulting from the initial activation of cards and annual subscription fees. Revenue resulting from the initial activation of cards is recognized ratably, net of commissions paid to distributors, over the average account life, which is approximately six months for GPR cards. Revenue resulting from annual subscription fees is recognized ratably over the annual period to which the fees relate.

Revenues also include fees charged in connection with program management and processing services the Company provides for private-label programs. Revenue resulting from these fees is recognized when the Company has fulfilled its obligations under the underlying service agreements.

Netspend derives revenue from a portion of the interchange fees remitted by merchants when cardholders make purchases using their GPR cards. Subject to applicable law, interchange fees are fixed by the card associations and network organizations (Networks). Interchange revenue is recognized net of sponsorship, licensing and processing fees charged by the Networks for services they provide in processing purchase transactions routed through them. Interchange revenue is recognized during the period that the purchase transactions occur. Also included in interchange revenue are fees earned from branding agreements with the Networks.

In regards to taxes assessed by a governmental authority imposed directly on a revenue producing transaction, the Company reports its revenues on a net basis.

REIMBURSABLE ITEMS: Reimbursable items consist of out-of-pocket expenses which are reimbursed by the Company's clients. These expenses consist primarily of postage, access fees and third party software.

INTERCHANGE AND ASSESSMENTS: Interchange and assessment fees are charged by the card associations or payment networks. Depending upon the transaction type, the fees are a percentage of the transaction's dollar value, a fixed amount, or a combination of the two methods.

SHARE-BASED COMPENSATION: GAAP establishes standards for the accounting for transactions in which an entity exchanges its equity instruments for goods or services. It also addresses transactions in which an entity incurs liabilities in exchange for goods or services that are based on the fair value of the entity's equity instruments or that may be settled by the issuance of those equity instruments. A public entity must measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award (with limited exceptions). That cost will be recognized over the period during which an employee is required to provide service in exchange for the award.

The Company estimates forfeitures when recognizing compensation cost. The estimate of forfeitures will be adjusted by the Company as actual forfeitures differ from its estimates, resulting in compensation cost only for those awards that actually vest. The effect of the change in estimated forfeitures is recognized as compensation costs in the period the change in estimate occurred. In estimating its forfeiture rate, the Company stratified its data based upon historical experience to determine separate forfeiture rates for the different award grants. The Company currently estimates a forfeiture rate for existing stock option grants to TSYS non-executive employees, and other TSYS share-based awards. Currently, TSYS estimates a forfeiture rate in the range of 0% for executive level employees and up to 8% for other employees.

The Company has issued its vested awards to directors and nonvested awards to certain employees. The market value of the common stock at the date of issuance is recognized as compensation expense immediately for vested awards and over the vesting period of the nonvested awards. For nonvested award grants that have pro rata vesting, the Company recognizes compensation expense using the straight-line method over the vesting period of the award.

LEASES: The Company is obligated under noncancelable leases for computer equipment, software and facilities. As these leases expire, they will be evaluated and renewed or replaced by similar leases based on need. A lease is an agreement conveying the right to use specified property, software or equipment (land and/or depreciable assets) usually for a stated period of time. For purposes of applying the accounting and reporting standards, leases are classified from the standpoint of the lessee as capital or operating leases.

Rental payments on operating leases are charged to expense over the lease term. If rental payments are not made on a straight-line basis, rental expense nevertheless shall be recognized on a straight-line basis unless another systematic and rational basis is more representative of the time pattern in which use benefit is derived from the leased property, in which case that basis shall be used.

Certain of the Company's operating leases are for office space. The Company will make various alterations (leasehold improvements) to the office space and capitalize these costs as part of property and equipment. Leasehold improvements are amortized on a straight-line basis over the useful life of the improvement or the term of the lease, whichever is shorter.

ADVERTISING: Advertising costs are expensed as incurred or the first time the advertising takes place except for direct-response advertising and television advertising production costs. Direct-response advertising consists of commission paid to affiliate marketers for the new funded customer accounts generated by them. Direct-response advertising costs are capitalized and amortized over the average life of the new accounts, which is approximately one year. Television advertising production costs consist of the costs of developing and filming television ads. Television advertising production costs are capitalized when the production services are received and expensed in the period when the advertising first takes place. Advertising expense for 2016, 2015 and 2014 was $11.5 million, $9.6 million and $5.7 million, respectively.

INCOME TAXES: Income taxes reflected in TSYS' consolidated financial statements are computed based on the taxable income of TSYS and its affiliated subsidiaries. A consolidated U.S. federal income tax return is filed for TSYS and its majority-owned U.S. subsidiaries. Additionally, income tax returns are also filed in states where TSYS and its subsidiaries have filing obligations and in foreign jurisdictions where TSYS has a foreign affiliate.

The Company accounts for income taxes in accordance with the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Reserves against the carrying value of a deferred tax asset are established when necessary to reflect the decreased likelihood of realization of a deferred asset in the future. The effect on deferred income tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Income tax provisions require the use of management judgments, which are subject to challenge by various taxing authorities. Contingency reserves are periodically established where the amount of the contingency can be reasonably determined and is likely to occur. Reductions in contingency reserves are recognized when tax disputes are settled or examination periods lapse.

Significant estimates used in accounting for income taxes relate to the determination of taxable income, the determination of temporary differences between book and tax basis, as well as estimates on the realizability of tax credits and net operating losses.

TSYS recognizes potential interest and penalties related to the underpayment of income taxes as income tax expense in the Consolidated Statements of Income.

NONCONTROLLING INTEREST: Noncontrolling interests in earnings of subsidiaries represents the minority shareholders' share of the net income or loss of TSYS Managed Services EMEA Limited (EMEA) and CPAY. The noncontrolling interests in the Consolidated Balance Sheet reflects the original investment by these shareholders in EMEA and CPAY, their proportional share of the earnings or losses and their proportional share of net gains or losses resulting from the currency translation of assets and liabilities of EMEA and CPAY. In March 2016, the Company acquired the remaining interest in EMEA. Refer to Note 23 for more information on acquisitions.

EARNINGS PER SHARE: Unvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalents are "participating securities" as defined by GAAP, and therefore should be included in EPS using the two-class method.

The two-class method is an earnings allocation method for computing EPS when an entity's capital structure includes two or more classes of common stock or common stock and participating securities. It determines EPS based on dividends declared on common stock and participating securities and participation rights of participating securities in any undistributed earnings.

Basic EPS is calculated by dividing net income by the weighted average number of common shares outstanding during the period. Diluted EPS is calculated to reflect the potential dilution that would occur if stock options or other contracts to issue common stock were exercised. Diluted EPS is calculated by dividing net income by weighted average common and common equivalent shares outstanding. Common equivalent shares are calculated using the treasury stock method.

RECLASSIFICATIONS: Certain reclassifications have been made to the 2015 and 2014 financial statements to conform to the presentation adopted in 2016. The most significant changes include the reclass of debt issuance costs from assets to

contra-liability accounts offsetting the associated debt and the reclassification of deferred income tax assets and liabilities from current to noncurrent in connection with the adoption of new accounting standards.

Recently Adopted Accounting Pronouncements

The Company adopted the following Accounting Standards Updates (ASUs) on January 1, 2016:

ASU 2015-17 "*Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes*" requires the classification of all deferred tax assets and liabilities as noncurrent on the balance sheet instead of separating deferred taxes into current and noncurrent amounts. Also, companies will no longer allocate valuation allowances between current and noncurrent deferred tax assets because those allowances also will be classified as noncurrent. The Company early adopted this ASU resulting in $24.7 million of current net deferred tax assets as of December 31, 2015 being moved to noncurrent. The guidance was applied retrospectively. The adoption of this ASU did not have a material impact on the Company's results of operations or cash flows.

ASU 2015-16 "*Business Combinations (Topic 805): Simplifying the Accounting for Measurement Period Adjustments*" eliminates the requirement for an acquirer to retrospectively adjust the financial statements for measurement-period adjustments that occur in periods after a business combination is consummated. The adoption of this ASU did not have a material impact on the Company's financial position, results of operations or cash flows.

ASU 2015-15 "*Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements — Amendments to SEC Paragraphs Pursuant to Staff Announcement at June 18, 2015 EITF Meeting*" and ASU 2015-03 "*Interest-Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs*" require entities to present debt issuance costs in the balance sheet as a direct deduction from the carrying amount of the corresponding debt liability, consistent with debt discounts, and allow entities to defer and present debt issuance costs associated with a line-of-credit as an asset and subsequently amortize deferred debt issuance costs ratably over the term of a line-of-credit arrangement. The guidance was applied retrospectively. The adoption of this guidance resulted in $6.4 million of debt issuance costs as of December 31, 2015 being moved from noncurrent assets on the Company's balance sheet to liabilities that offset both the current and noncurrent portions of the debt which these costs are associated as of December 31, 2016. The Company continues to include debt issuance costs associated with a line-of-credit in its noncurrent assets. The adoption of this guidance did not have a material impact on the Company's results of operations or cash flows.

ASU 2015-05 "*Intangibles — Goodwill and Other — Internal-Use Software (Subtopic 350-40): Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*" provides guidance about whether a cloud computing arrangement includes a software license or a service agreement. The Company adopted this ASU on a prospective basis. The adoption of this ASU did not have a material impact on the Company's financial position, results of operations or cash flows.

ASU 2015-01 "*Income Statement — Extraordinary and Unusual Items (Subtopic 225-20): Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items*" eliminates from GAAP the concept of extraordinary items. The adoption of this ASU did not have a material impact on the financial position, results of operations or cash flows of the Company.

Recent Accounting Pronouncements

In December 2016, the FASB issued ASU 2016-19 "*Technical Corrections,*" which represent changes to clarify, correct errors or make minor improvements to the ASC. Most of the amendments in this Update do not require transition guidance and are effective upon issuance of this Update. Six amendments in this Update clarify guidance or correct references in the ASC that could potentially result in changes in current practice because of either misapplication or misunderstanding of current guidance. Early adoption is permitted for the amendments that require transition guidance. The Company will be impacted by the amendment to Subtopic 350-40, *Intangibles — Goodwill and Other — Internal-Use Software*, which adds a reference to guidance to use when accounting for internal-use software licensed from third parties that is within the scope of Subtopic 350-40. The transition guidance for that amendment is the same as the transition guidance in ASU 2015-05, "*Intangibles — Goodwill and Other — Internal-Use Software (Subtopic 350-40): Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*," to which the amendment relates. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In November 2016, the FASB issued ASU 2016-18 "*Statement of Cash Flows (Topic 230): Restricted Cash*," which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. The ASU is effective for the Company on January 1, 2018. The Company does not expect the adoption of this ASU to have a material impact on the Company's financial position, results of operations or cash flows.

In March 2016, the FASB issued ASU 2016-09 "*Improvements to Employee Share-Based Payment Accounting*," which simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures and statutory tax withholding requirements, as well as classification in the statement of cash flows. The ASU is effective for fiscal years and interim periods within those years beginning after December 15, 2016. The adoption of this ASU will result in excess tax benefits and deficiencies associated with share-based payments being recorded on the income statement at the time they are deducted on the income tax return instead of being recorded in additional paid-in capital. The excess tax benefits are recorded along with other income tax cash flows as an operating activity in the statement of cash flows. The Company will adopt this ASU on January 1, 2017. The Company has reviewed this standard, noting adoption of the standard will result in a benefit to the income tax provision and an immaterial dilutive effect on diluted EPS.

In February 2016, the FASB issued ASU 2016-02 *"Leases (Topic 842)."* ASU 2016-02 introduces a lessee model that brings most leases on the balance sheet and aligns many of the underlying principles of the new lessor model with those in the FASB's new revenue recognition standard. The new standard establishes a right-of-use model (ROU) that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than twelve months. Leases will be classified as finance or operating, with classification affecting the pattern and classification of expense recognition in the income statement.

The new guidance will be effective for the Company on January 1, 2019 with early adoption permitted. The Company expects to adopt the new standard on its effective date.The Company expects the standard will have a material effect on the its financial statements. At December 31, 2016, the Company had approximately $472.8 million of operating leases that would be recorded on the balance sheet if the standard was already effective. The Company has not determined the remaining effect on its ongoing financial reporting for adoption of this ASU. The Company expects to elect all of the available practical expedients on adoption.

Recent Revenue Recognition Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09 "*Revenue from Contracts with Customers*," which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective.

The FASB has issued several additional ASUs since this time that add additional clarification to certain issues existing after the original ASU was released. All of the new standards are effective for the Company on January 1, 2018, with early adoption permitted no sooner than January 1, 2017. The standards permit the use of either the retrospective or cumulative effect transition method. The Company has not determined the effect on its ongoing financial reporting for adoption of these ASUs.

The Company is reviewing the requirements of the new revenue standard, and amendments described below, while following activities of the FASB and the American Institute of Certified Public Accountants (AICPA) for certain interpretive guidance applicable to IT outsourcers and payment processors. The Company is evaluating customer contracts under the new standard for each type of significant revenue stream (and related costs) identified to evaluate differences from current accounting. TSYS plans to adopt ASU 2014-09, as well as all other clarifications and technical guidance issued by the FASB and AICPA related to this new revenue standard, on January 1, 2018 using the modified retrospective transition method. Such adoption method may result in an adjustment to the opening balance of retained earnings (or other appropriate components of net assets in the statement of financial position) for the cumulative effect, if any, of applying the standard to contracts that are not completed on January 1, 2018. Under the modified retrospective transition method, the Company is required to disclose the impact of changes to financial statement line items due to the application of the new revenue standard, including an explanation of the reasons for any significant changes.

The new standard could change the amount and timing of revenue and costs for certain significant revenue streams, increase areas of judgment and related internal controls requirements, change the presentation of revenue for certain contract arrangements and possibly require changes to the Company's software systems to assist in both internally capturing accounting differences and externally reporting such differences through enhanced disclosure requirements.

In March 2016, the FASB issued ASU 2016-08 *"Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net),"* which improves the operability and understandability of the implementation guidance on principal versus agent considerations by providing indicators as to which party controls the good or service provided to a customer (the principal).

In April 2016, the FASB issued ASU 2016-10 "*Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing,*" which clarifies two aspects of Topic 606: identifying performance obligations and the licensing implementation guidance, while retaining the related principles for those areas.

In May 2016, the FASB issued ASU 2016-12 "*Revenue from Contracts with Customers (Topic 606): Narrow Scope Improvements and Practical Expedients,*" which affects only the following narrow aspects of Topic 606: Assessing the Collectability Criterion; Presentation of Sales and Other Taxes Collected from Customers; Noncash Consideration; Contract Modification at Transition; Completed Contracts at Transition; and Technical Correction.

In December 2016, the FASB issued ASU 2016-20 "*Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers,*" which affects only the following narrow aspects of Topic 606: Disclosure of Remaining Performance Obligations as it relates to entities such as processors which may not be required to estimate revenue under ASU 2014-09 due to direct allocation of variable consideration; Disclosure of Prior — Period Performance Obligations; Loan Guarantee Fees; Contract Costs — Impairment Testing; Contract Costs — Interaction of Impairment Testing with Guidance in Other Topics; Provisions for Losses on Construction — Type and Production Type Contracts; Contracts within the scope of Topic 944 (insurance)are excluded from the scope of Topic 606; Contract Modifications; Contract Asset versus Receivable; Refund Liability; Advertising Costs; Fixed — Odds Wagering Contracts in the Casino Industry.

Note 2 Discontinued Operations

In accordance with GAAP, the Company determined its Japan-based businesses became discontinued operations in 2014.

The Company sold all of its stock of GP Network Corporation (GP Net) (representing 54% ownership of the company) and all of its stock of TSYS Japan Godo Kaisha (TSYS Japan) (representing 100% ownership of the company) in April 2014. Both entities were part of the International Services segment. The sale of the Company's stock in both of its operations in Japan was the result of management's decision in 2014, to divest non-strategic businesses and focus resources on core products and services. In 2014, the Company had a gain of $48.6 million, net of tax, related to the sales of its operations in Japan. In 2015, the Company recorded an additional gain of $1.4 million, net of tax, related to the return of cash in that was placed in escrow during closing and tax adjustments associated with the transaction.

GP Net and TSYS Japan were not significant components of TSYS' consolidated results.

The following table presents the summarized results of discontinued operations for the years ended December 31, 2015 and 2014:

(in thousands)	2015	2014
Total revenues	$ —	16,376
Income before taxes	$ —	1
Income tax benefit	$ —	(39)
Income from operating activities of discontinued operations, net of tax	$ —	40
Gain on dispositions, net of tax	$1,411	48,615
Income from discontinued operations, net of tax	$1,411	48,655
Income from discontinued operations, net of tax, attributable to noncontrolling interest	$ —	999
Income from discontinued operations, net of tax, attributable to TSYS common shareholders	$1,411	47,656

Note 3 Fair Value Measurement

GAAP requires disclosure about how fair value is determined for assets and liabilities and establishes a hierarchy for which these assets and liabilities must be grouped, based on significant level of inputs. The three-tier fair value hierarchy, which prioritizes the inputs used in the valuation methodologies, is as follows:

Level 1 — Quoted prices for identical assets and liabilities in active markets.

Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Unobservable inputs for the asset or liability.

The Company had no transfers between Level 1, Level 2, or Level 3 during the years ended December 31, 2016, 2015 or 2014. Goodwill is assessed annually for impairment in the second quarter of each year using fair value measurement techniques. Specifically, goodwill impairment is determined using a three-step test. Step 0 is a qualitative analysis of relevant events or circumstances to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. The first step of the goodwill impairment test is used to identify potential impairment by comparing the fair value of a reporting unit (RU) with its book value, including goodwill. If the fair value of the RU exceeds its book value, goodwill is considered not impaired and the second step of the impairment test is unnecessary. If the book value of the RU exceeds its fair value, the second step of the goodwill impairment test is performed to measure the amount of impairment loss, if any. The second step of the goodwill impairment test compares the implied fair value of the RU's goodwill with the book value of that goodwill. If the book value of the RU's goodwill exceeds the implied fair value of that goodwill, an impairment loss is recognized in an amount equal to that excess. The fair value of the RU is allocated to all of the assets and liabilities of that unit as if the RU had been acquired in a business combination and the fair value of the RU was the purchase price paid to acquire the RU.

The estimate of fair value of the Company's RUs is determined using various valuation techniques, including using an equally weighted combination of the market approach and the income approach. The market approach, which contains Level 2 inputs, utilizes readily available market valuation multiples to estimate fair value. The income approach is a valuation technique that utilizes the discounted cash flow (DCF) method, which includes Level 3 inputs. Under the DCF method, the fair value of the RU reflects the present value of the projected earnings that will be generated by each RU after taking into account the revenues and expenses associated with the asset, the relative risk that the cash flows will occur, the contribution of other assets, and an appropriate discount rate to reflect the value of the invested capital. Cash flows are estimated for future periods based upon historical data and projections by management.

As of December 31, 2016, the Company had recorded goodwill in the amount of $3.3 billion. The Company performed its annual impairment test of its goodwill balances as of May 31, 2016, and this test did not indicate any impairment. The fair value of the RUs substantially exceeds the carrying value. Refer to Note 6 for more information regarding goodwill.

The fair value of the Company's long-term debt and obligations under capital leases is not significantly different from its carrying value.

Note 4 Cash and Cash Equivalents

Cash and cash equivalent balances as of December 31, 2016 and 2015 are summarized as follows:

(in thousands)	**2016**	2015
Cash and cash equivalents in domestic accounts	**$375,122**	307,578
Cash and cash equivalents in foreign accounts	**50,232**	81,750
Total	**$425,354**	389,328

The Company maintains operating accounts outside the United States denominated in currencies other than the U.S. dollar. All amounts in domestic accounts are denominated in U.S. dollars.

Note 5 Prepaid Expenses and Other Current Assets

Significant components of prepaid expenses and other current assets as of December 31, 2016 and 2015 are summarized as follows:

(in thousands)	**2016**	2015
Prepaid expenses	**$ 84,173**	37,961
Supplies inventory	**17,105**	15,114
Income taxes receivable	**—**	51,322
Other	**63,210**	49,802
Total	**$164,488**	154,199

Note 6 Goodwill

In 2016, the Company completed the TransFirst acquisition resulting in an additional $1.7 billion of goodwill being recorded. In addition, there was a downward adjustment to goodwill of $584,000 related to income tax reserves associated with the Netspend acquisition. In 2015, the Company adjusted the Netspend goodwill allocation to include an additional $627,000 for an adjustment to the sales tax reserves associated with the acquisition.

The gross amount and accumulated impairment losses of goodwill as of December 31, 2016 and 2015 are as follows:

	2016				
(in thousands)	**North America Services**	**International Services**	**Merchant Services**	**Netspend**	**Consolidated**
Gross amount	**$70,796**	**25,937**	**2,144,061**	**1,034,170**	**$3,274,964**
Accumulated impairment losses	**(182)**	**(1,605)**	**(2,225)**	**—**	**(4,012)**
Goodwill, net	**$70,614**	**24,332**	**2,141,836**	**1,034,170**	**$3,270,952**

	2015				
	North America Services	International Services	Merchant Services	Netspend	Consolidated
Gross amount	$ 70,796	29,081	415,973	1,033,586	$ 1,549,436
Accumulated impairment losses	(182)	(1,605)	(2,225)	—	(4,012)
Goodwill, net	$ 70,614	27,476	413,748	1,033,586	$ 1,545,424

Below are the balances of goodwill as of December 31, 2016 and 2015 along with the related changes in carrying value.

(in thousands)	**North America Services**	**International Services**	**Merchant Services**	**Netspend**	**Consolidated**
Balance as of December 31, 2014	$ 70,614	30,076	413,748	1,032,959	$ 1,547,397
Netspend tax adjustment	—	—	—	627	627
Currency translation adjustments	—	(2,600)	—	—	(2,600)
Balance as of December 31, 2015	$ 70,614	27,476	413,748	1,033,586	$ 1,545,424
Netspend tax adjustment	**—**	**—**	**—**	**584**	**584**
TransFirst acquisition	**—**	**—**	**1,728,088**	**—**	**1,728,088**
Currency translation adjustments	**—**	**(3,144)**	**—**	**—**	**(3,144)**
Balance as of December 31, 2016	**$70,614**	**24,332**	**2,141,836**	**1,034,170**	**$3,270,952**

Refer to Note 23 for more information on acquisitions.

Note 7 Other Intangible Assets, Net

In 2016, the changes in other intangible assets related to foreign currency translation and the acquisition of TransFirst. Refer to Note 23 for more information on acquisitions.

Significant components of other intangible assets as of December 31, 2016 and 2015 are summarized as follows:

(in thousands)	2016 Gross	2016 Accumulated Amortization	2016 Net
Merchant relationships	**$ 588,000**	**(63,000)**	**$525,000**
Channel relationships	**439,600**	**(148,815)**	**290,785**
Customer relationships	**166,340**	**(122,465)**	**43,875**
Trade name	**62,397**	**(45,197)**	**17,200**
Covenants-not-to-compete	**29,940**	**(13,869)**	**16,071**
Database	**28,000**	**(19,600)**	**8,400**
Trade association	**10,000**	**(6,750)**	**3,250**
Favorable lease	**3,006**	**(911)**	**2,095**
Total	**$1,327,283**	**(420,607)**	**$906,676**

(in thousands)	2015 Gross	2015 Accumulated Amortization	2015 Net
Channel relationships	$ 318,600	(99,909)	$ 218,691
Customer relationships	166,579	(104,736)	61,843
Trade name	46,422	(24,422)	22,000
Covenants-not-to-compete	14,940	(7,834)	7,106
Database	28,000	(14,000)	14,000
Trade association	10,000	(5,750)	4,250
Favorable lease	875	(445)	430
Total	$ 585,416	(257,096)	$ 328,320

Amortization related to other intangible assets, which is recorded in selling, general and administrative expenses, was $163.8 million, $75.8 million and $77.3 million for 2016, 2015 and 2014, respectively.

The weighted average useful life for each component of other intangible assets, and in total, as of December 31, 2016 is as follows:

	Weighted Average Amortization Period (Yrs)
Merchant relationships	7.0
Channel relationships	8.6
Customer relationships	8.2
Trade name	3.9
Covenants-not-to-compete	4.1
Database	5.0
Trade association	10.0
Favorable lease	5.4
Total	7.4

Estimated future amortization expense of other intangible assets as of December 31, 2016 for the next five years is:

(in thousands)	
2017	$180,304
2018	161,647
2019	145,601
2020	140,193
2021	119,617

Note 8 Computer Software, Net

Computer software as of December 31, 2016 and 2015 is summarized as follows:

(in thousands)	**2016**	2015
Licensed computer software	**$ 513,790**	513,443
Software development costs	**428,581**	404,238
Acquisition technology intangibles	**238,211**	167,971
Total computer software	**1,180,582**	1,085,652
Less accumulated amortization:		
Licensed computer software	**315,591**	282,563
Software development costs	**307,190**	287,863
Acquisition technology intangibles	**134,613**	110,156
Total accumulated amortization	**757,394**	680,582
Computer software, net	**$ 423,188**	405,070

The Company held the following computer software under license agreements as of December 31, 2016 and 2015:

(in thousands)	**2016**	2015
Licensed computer software	**$ 23,665**	18,206
Accumulated amortization	**(14,634)**	(8,175)
Licensed computer software, net	**$ 9,031**	10,031

Amortization expense includes amounts for computer software acquired under license agreements. The Company had the following amortization expense related to computer software for the years ended December 31, 2016, 2015 and 2014:

(in thousands)	**2016**	2015	2014
Amortization expense related to:			
Licensed computer software	**$45,655**	41,823	36,775
Software development costs	**26,478**	22,740	25,248
Acquisition technology intangibles	**26,217**	16,734	19,683

The weighted average useful life for each component of computer software, and in total, as of December 31, 2016, is as follows:

	Weighted Average Amortization Period (Yrs)
Licensed computer software	5.8
Software development costs	6.1
Acquisition technology intangibles	6.2
Total	6.0

Estimated future amortization expense of licensed computer software, software development costs and acquisition technology intangibles as of December 31, 2016 for the next five years is:

(in thousands)	**Licensed Computer Software**	**Software Development Costs**	**Acquisition Technology Intangibles**
2017	$42,937	23,777	28,268
2018	34,142	18,225	25,793
2019	21,071	13,414	25,793
2020	17,010	9,646	20,134
2021	9,293	6,787	3,600

Note 9 Property and Equipment, Net

Property and equipment balances as of December 31, 2016 and 2015 are as follows:

(in thousands)	**2016**	2015
Computer and other equipment	**$356,358**	346,387
Buildings and improvements	**246,577**	244,938
Furniture and other equipment	**141,836**	138,727
Land	**15,877**	16,577
Other	**2,387**	597
Total property and equipment	**763,035**	747,226
Less accumulated depreciation and amortization	**480,690**	457,328
Property and equipment, net	**$282,345**	289,898

The Company has various types of equipment under capital lease arrangements. The Company has the following amounts of equipment under capital lease obligations as of December 31, 2016 and 2015:

(in thousands)	**2016**	2015
Computer and other equipment	**$ 51,702**	55,450
Furniture and other equipment	**5,412**	5,374
Total equipment	**57,114**	60,824
Less accumulated depreciation:		
Computer and other equipment	**(39,060)**	(36,134)
Furniture and other equipment	**(3,788)**	(2,731)
Total accumulated depreciation	**(42,848)**	(38,865)
Total equipment, net	**$ 14,266**	21,959

Depreciation and amortization expense includes amounts for computer equipment, furniture and other equipment acquired under capital lease. Depreciation and amortization expense related to property and equipment was $62.5 million, $56.6 million and $53.5 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Note 10 Contract Acquisition Costs, Net

Significant components of contract acquisition costs as of December 31, 2016 and 2015 are summarized as follows:

(in thousands)	**2016**	2015
Conversion costs, net of accumulated amortization of $164.4 million and $150.0 million as of 2016 and 2015, respectively	**$144,173**	159,000
Payments for processing rights, net of accumulated amortization of $145.3 million and $137.9 million as of 2016 and 2015, respectively	**91,527**	88,811
Total	**$235,700**	247,811

Amortization expense related to contract acquisition costs for the years ended December 31, 2016, 2015 and 2014 is as follows:

(in thousands)	**2016**	2015	2014
Amortization expense related to:			
Conversion costs	**$28,811**	27,392	17,816
Payments for processing rights	**19,804**	17,039	16,209

The weighted average useful life for each component of contract acquisition costs, and in total, as of December 31, 2016 is as follows:

	Weighted Average Amortization Period (Yrs)
Conversion costs	12.9
Payments for processing rights	15.6
Total	14.1

Estimated future amortization expense of conversion costs and payments for processing rights as of December 31, 2016 for the next five years is:

(in thousands)	Conversion Costs	Payments for Processing Rights
2017	$32,830	19,487
2018	29,727	18,084
2019	24,480	15,220
2020	20,037	12,955
2021	18,197	10,704

Note 11 Equity Investments

The Company has an equity investment in CUP Data and records its 44.56% ownership using the equity method of accounting. CUP Data is sanctioned by the People's Bank of China, China's central bank, and has become one of the world's largest and fastest-growing payments networks. CUP Data currently provides transaction processing, disaster recovery and other services for banks and bankcard issuers in China.

The Company has an equity investment in TSYS de México and records its 49% ownership using the equity method of accounting. The operation prints statements and provides card-issuing support services to the equity investment clients and others.

TSYS' equity investments are recorded initially at cost and subsequently adjusted for equity in earnings, cash contributions and distributions, and foreign currency translation adjustments. TSYS believes the carrying value approximates the underlying net assets of the equity investments.

TSYS' equity in income of equity investments (net of tax) for the years ended December 31, 2016, 2015 and 2014 was $25.9 million, $22.1 million and $17.6 million, respectively.

A summary of TSYS' equity investments as of December 31, 2016 and 2015 is as follows:

(in thousands)	**2016**	2015
CUP Data	**$101,638**	98,518
Other	**9,155**	7,600
Total	**$110,793**	106,118

Note 12 Long-term Borrowings and Capital Lease Obligations

Long-term debt as of December 31, 2016 and 2015 consists of:

(in thousands)	**2016**	2015
3.800% Senior Notes due April 1, 2021 (5 year tranche), net of discount and debt issuance costs	**$ 743,625**	—
4.800% Senior Notes due April 1, 2026 (10 year tranche), net of discount and debt issuance costs	**742,383**	—
LIBOR + 1.500%, unsecured term facility, due February 23, 2021, with quarterly principal and interest payments, net of debt issuance costs	**697,832**	—
2.375% Senior Notes due June 1, 2018 (5 year tranche), net of discount and debt issuance costs	**548,615**	547,720
3.750% Senior Notes due June 1, 2023 (10 year tranche), net of discount and debt issuance costs	**543,947**	543,153
LIBOR + 1.300%, unsecured revolving loan, due February 23, 2021, with monthly interest payments on outstanding balances	**70,000**	—
1.380% note payable due December 31, 2017, with monthly interest and principal payments	**13,853**	30,000
LIBOR + 1.125%, unsecured term loan, due April 8, 2018, with quarterly principal and interest payments, net of debt issuance costs	**—**	174,652
LIBOR + 1.125%, unsecured term loan, due September 10, 2017, with quarterly principal and interest payments, net of debt issuance costs	**—**	119,761
1.500% note payable, due September 30, 2016, with monthly interest and principal payments	**—**	5,132
LIBOR + 2.000%, unsecured term loan, due December 7, 2017, with monthly interest payments and principal paid at maturity	**—**	3,202
1.500% note payable, due January 31, 2016, with monthly interest and principal payments	**—**	336
Total debt	**3,360,255**	1,423,956
Less current portion	**48,040**	50,078
Noncurrent portion of long-term debt	**$3,312,215**	1,373,878

On January 26, 2016, the Company entered into a Stock Purchase Agreement (the "Purchase Agreement") with Vista Equity Partners Fund V, L.P., a Delaware limited partnership ("Fund V"), Vista Equity Partners Fund V-A, L.P., a Cayman Islands limited partnership ("Fund V-A"), Vista Equity Partners Fund V-B, L.P., a Cayman Islands limited partnership ("Fund V-B"), Vista Equity Partners Fund V Executive, L.P., a Delaware limited partnership ("Fund V Executive"), VEPF V FAF, L.P., a Delaware limited partnership ("VEPF V"), Vista Equity Associates, LLC, a Delaware limited liability company ("Associates LLC" and, together with Fund V, Fund V-A, Fund V-B, Fund V Executive and VEPF V, the "Sellers"), and TransFirst, a Delaware corporation, pursuant to which, and upon the terms and subject to the conditions set forth in the Purchase Agreement, the Company acquired all of the outstanding capital stock of TransFirst from the Sellers on April 1, 2016.

On February 23, 2016, the Company entered into a Credit Agreement (the "2016 Credit Agreement") with JPMorgan Chase Bank, N.A., as Administrative Agent and L/C Issuer, Bank of America, N.A., as Syndication Agent and L/C Issuer, The Bank of Tokyo-Mitsubishi UFJ, LTD., U.S. Bank National Association and Wells Fargo Bank, National Association, as Co-Documentation Agents, and the other lenders party thereto, with J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, The Bank of Tokyo-Mitsubishi UFJ, LTD., U.S. Bank National Association and Wells Fargo Securities, LLC as joint lead arrangers and joint bookrunners. The 2016 Credit Agreement provides the Company with a $700 million five-year term loan facility (the "Term Loan Facility") consisting of (i) a $300 million term loan (the "Refinancing Term Loan") funded upon entry into the 2016 Credit Agreement and (ii) a $400 million term loan (the "Delayed Draw Term Loan"). The 2016 Credit Agreement also provides the Company with a $800 million unsecured revolving credit facility (the "Revolving Loan Facility"), which includes a $50 million sub-facility for the issuance of standby letters of credit. The balance as of December 31, 2016 was $697.8 million net of discount and debt issuance costs on the Term Loan Facility. There is no outstanding balance as of December 31, 2016 on the Revolving Loan Facility.

The Refinancing Term Loan was used to repay in full the Company's outstanding loans and other obligations under that certain credit agreement, dated as of September 10, 2012, by and among the Company, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent thereunder, as amended, and that certain credit agreement, dated as of April 8, 2013, by and among the Company, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent thereunder, as amended. The Delayed Draw Term Loan was used to finance, in part, the acquisition and related transactions, upon satisfaction of a limited set of conditions precedent. The Revolving Loan Facility is available for draws for purposes of working capital and other general corporate purposes, including to finance, in part, the acquisition and related

transactions upon satisfaction of a limited set of conditions precedent. The creditor group of the modified debt remained consistent before and after the debt was amended. Any exceptions were minor.

Concurrently with entering into the Purchase Agreement, the Company obtained commitments for a $2.0 billion 364-day bridge term loan facility from JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Bank of America N.A., The Bank of Tokyo-Mitsubishi UFJ, Ltd, U.S. Bank National Association, Wells Fargo Securities, LLC and Wells Fargo Bank, National Association (collectively, the ''Commitment Parties''). Thereafter, the Commitment Parties assigned portions of their commitments to certain other bridge facility lenders. Based on the terms of the bridge term loan facility commitment letter, upon entering into the 2016 Credit Agreement, the total commitments under the bridge term loan facility were reduced from $2.0 billion to $1.15 billion by the amount of the Delayed Draw Term Loan commitment and the portion of the Revolving Loan Facility commitments in excess of $350 million. The bridge term loan facility was terminated in March 2016 after the issuance of the Notes described below.

Borrowings under the 2016 Credit Agreement will accrue interest at the base rate (as defined in the 2016 Credit Agreement) or, for certain euro-denominated borrowings, the London Interbank Offered Rate (''LIBOR''), in each case plus a margin that is set based on the Company's corporate credit ratings. The applicable margin for loans bearing interest based on LIBOR ranges from 0.900% to 1.500% for revolving loans and 1.000% to 1.750% for term loans. The applicable margin for loans bearing interest based on the base rate ranges from 0.000% to 0.500% for revolving loans and 0.000% to 0.750% for term loans. In addition, the Company will pay the lenders a facility fee ranging from 0.100% to 0.250% per annum, depending on the Company's corporate credit ratings, on the commitments under the Revolving Loan Facility (regardless of usages) and the undrawn commitment amount in respect of the Delayed Draw Term Loan. Based on the Company's current corporate credit ratings, (i) the applicable margin for loans accruing interest at the base rate is 0.500% for term loans and 0.300% for revolving loans and (ii) the applicable margin for loans accruing interest at LIBOR is 1.500% for term loans and 1.300% for revolving loans. The 2016 Credit Agreement contains customary covenants regarding, among other matters, the maintenance of insurance, the preservation and maintenance of the Company's corporate existence, material compliance with laws and the payment of taxes and other material obligations. During the year ended December 31, 2016, the Company repaid $400.0 million on the Revolving Loan Facility. As of December 31, 2016, the outstanding balance on the Revolving Loan Facility was $70.0 million.

On March 17, 2016, the Company closed its sale (the ''Transaction'') of $750 million aggregate principal amount of 3.800% Senior Notes due 2021 and $750 million aggregate principal amount of 4.800% Senior Notes due 2026 (collectively, the ''2016 Notes'') pursuant to an agreement (the ''Underwriting Agreement'') with J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representatives of the underwriters, whereby the Company agreed to sell and the Underwriters agreed to purchase the 2016 Notes from the Company, subject to and upon the terms and conditions set forth in the Underwriting Agreement. The Company used the net proceeds of the Transaction to pay a portion of the approximately $2.35 billion purchase price of the Company's acquisition of TransFirst and related fees and expenses. The 2016 Notes were issued pursuant to a Senior Indenture, dated as of March 17, 2016, between the Company and Regions Bank, as trustee. The balance as of December 31, 2016 was $743.5 million net of discount and debt issuance costs for the Senior Notes due June 2021 and $743.0 million net of discount and debt issuance costs for the Senior Notes due June 2026.

During December 2014, EMEA obtained a £900,000, or approximately $1.4 million term loan. In September 2015, TSYS increased the loan by £1.3 million, or approximately $1.9 million. The loan bears interest at a rate of LIBOR plus two percent. The loan maturity date was December 2017, and had monthly interest payments. The lender in this transaction was Merchants Limited, who had a noncontrolling interest in EMEA. In 2016, the Company purchased the remaining ownership interest in EMEA from Merchants Limited. In addition, the debt was paid off in conjunction with the acquisition.

In December 2015, the Company entered into a $30.0 million financing agreement for perpetual software licenses. The balance as of December 31, 2016 was $13.9 million.

In September 2014, the Company entered into a $13.6 million financing agreement for perpetual software licenses. The agreement was paid during 2016 and no outstanding balance remained.

In April 2013, the Company entered into a Credit Agreement (the ''2013 Credit Agreement'') with JPMorgan Chase Bank, N.A., as Administrative Agent, The Bank of Tokyo-Mitsubishi UFJ, Ltd., as Syndication Agent, Regions Bank and U.S. Bank National Association, as Documentation Agents, and other lenders party thereto, with J.P. Morgan Securities LLC, The Bank of Tokyo Mitsubishi UFJ, Ltd., Regions Capital Markets, and U.S. Bank National Association as joint lead arrangers and joint bookrunners. The 2013 Credit Agreement provided for a five-year term loan to the Company in the amount of $200.0 million (the ''Term Loan'') and bore interest at LIBOR plus 1.125%, which was subject to adjustment based on changes in the Company's credit ratings, with margins ranging from 1.00% to 1.75%. The 2013 Credit Agreement was paid during 2016 and no outstanding balance remains.

In May 2013, the Company closed its issuance (the ''Transaction'') of $550.0 million aggregate principal amount of 2.375% Senior Notes due 2018 and $550.0 million aggregate principal amount of 3.750% Senior Notes due 2023 (collectively, the

"2013 Notes") pursuant to an Underwriting Agreement with J.P. Morgan Securities LLC, as representative of certain underwriters (the "Underwriters"), whereby the Company agreed to sell and the Underwriters agreed to purchase the 2013 Notes from the Company, subject to and upon the terms and conditions set forth in the Underwriting Agreement. The interest on the 2013 Notes are payable semiannually. The Company paid fees in 2013 associated with the issuance of these 2013 Notes of approximately $8.9 million and recorded discounts of approximately $4.3 million that are being amortized over the life of the 2013 Notes. The Company used the net proceeds of the Transaction to pay a portion of the $1.4 billion purchase price of the Company's acquisition of Netspend and related fees and expenses. The 2013 Notes were issued pursuant to an Indenture dated as of May 22, 2013 between the Company and Wells Fargo Bank, National Association, as trustee. The balance as of December 31, 2016 was $548.1 million net of discount and debt issuance costs for the Senior Notes due June 2018 and $544.0 million net of discount and debt issuance costs for the Senior Notes due June 2023.

The 2013 and 2016 Notes also contain various affirmative and negative covenants, including those that create limitations on the Company's:

- creation of liens;
- merging or selling assets unless certain conditions are met; and
- entering into sale/leaseback transactions.

The 2013 and 2016 Notes also contain a provision that requires the Company to repurchase all or any portion of a holder's notes, at the holder's option, if a Change in Control Repurchase Event, as defined in the Prospectus Supplements for the 2013 and 2016 Notes offerings.

Required annual principal payments on long-term debt for the five years subsequent to December 31, 2016 are summarized as follows:

(in thousands)	
2017	$ 48,853
2018	611,250
2019	70,000
2020	70,000
2021	1,283,750

Capital lease obligations as of December 31, 2016 and 2015 consist of:

(in thousands)	**2016**	2015
Capital lease obligations	**$3,748**	7,131
Less current portion	**2,687**	3,468
Noncurrent portion of capital leases	**$1,061**	3,663

The Company acquires various computer equipment, software, machinery and equipment and furniture and fixtures under capital lease obligations. Refer to Notes 8, 9 and 22 for more information. The capital lease obligations have various payment terms for each capital lease obligation, including single payment leases, monthly, quarterly and annually. The lease terms for the equipment and software range from one to six years.

The future minimum lease payments under capital leases as of December 31, 2016 are summarized as follows:

(in thousands)	
2017	$2,754
2018	1,019
2019	63
2020	—
2021	—
Total minimum lease payments	3,836
Less amount representing interest	88
Principal minimum lease payments	$3,748

Note 13 Other Current Liabilities

Significant components of other current liabilities as of December 31, 2016 and 2015 are summarized as follows:

(in thousands)	**2016**	2015
Deferred revenues	**$ 40,473**	39,863
Accrued expenses	**32,861**	26,017
Accrued third-party commissions	**28,310**	9,810
Litigation settlements	**20,795**	1,290
Dividends payable	**19,513**	19,367
Accrued interest	**19,029**	2,820
Other	**102,278**	67,412
Total	**$263,259**	166,579

Note 14 Income Taxes

The provision for income taxes includes income taxes currently payable and those deferred because of temporary differences between the financial statement carrying amounts and tax bases of assets and liabilities.

The components of income tax expense included in the Consolidated Statements of Income are as follows:

	Years Ended December 31,		
(in thousands)	**2016**	2015	2014
Current income tax expense:			
Federal	**$140,079**	139,228	126,203
State	**9,218**	9,255	5,161
Foreign	**4,443**	4,762	7,694
Total current income tax expense	**153,740**	153,245	139,058
Deferred income tax expense (benefit):			
Federal	**8,393**	(2,198)	(3,623)
State	**(65)**	442	(2,039)
Foreign	**(893)**	(125)	(3,635)
Total deferred income tax expense (benefit)	**7,435**	(1,881)	(9,297)
Total income tax expense	**$161,175**	151,364	129,761

	Years Ended December 31,		
(in thousands)	**2016**	2015	2014
Components of income before income tax expense:			
Domestic	**$454,763**	488,515	369,888
Foreign	**6,451**	8,373	23,041
Total income before income tax expense	**$461,214**	496,888	392,929

Income tax expense differs from the amounts computed by applying the statutory U.S. federal income tax rate of 35% to income before income taxes, noncontrolling interest and equity in income of equity investments as a result of the following:

	Years Ended December 31,		
(in thousands)	**2016**	2015	2014
Computed "expected" income tax expense	**$161,425**	173,911	137,525
Increase (decrease) in income tax expense resulting from:			
International tax rate differential and equity income	**8,715**	8,367	6,541
State income tax expense, net of federal income tax effect	**9,127**	7,101	4,823
Increase (decrease) in valuation allowance	**2,855**	(517)	(4,550)
Tax credits	**(15,695)**	(28,831)	(3,459)
Deduction for domestic production activities	**(12,950)**	(11,550)	(8,750)
Permanent differences and other, net	**7,698**	2,883	(2,369)
Total income tax expense	**$161,175**	151,364	129,761

Temporary differences between the financial statement carrying amounts and tax bases of assets and liabilities that give rise to significant portions of the net deferred tax liability as of December 31, 2016 and 2015 relate to the following:

	As of December 31,	
(in thousands)	**2016**	2015
Deferred income tax assets:		
Net operating loss and income tax credit carryforwards	**$ 34,490**	29,522
Allowances for doubtful accounts and billing adjustments	**1,512**	1,399
Deferred revenue	**27,461**	31,713
Share-based compensation	**25,497**	22,088
Foreign currency translation	**4,019**	—
Other, net	**38,341**	34,673
Total deferred income tax assets	**131,320**	119,395
Less valuation allowance for deferred income tax assets	**(21,301)**	(18,446)
Net deferred income tax assets	**110,019**	100,949
Deferred income tax liabilities:		
Excess tax over financial statement depreciation	**(63,432)**	(61,161)
Computer software development costs	**(80,837)**	(82,835)
Purchase accounting adjustments	**(344,547)**	(114,171)
Foreign currency translation	**—**	(4,522)
Other, net	**(33,700)**	(24,462)
Total deferred income tax liabilities	**(522,516)**	(287,151)
Net deferred income tax liabilities	**$(412,497)**	(186,202)
Total net deferred tax assets (liabilities):		
Noncurrent deferred tax asset	**$ 7,055**	6,242
Noncurrent deferred tax liability	**(419,552)**	(192,444)
Net deferred tax liability	**$(412,497)**	(186,202)

As of December 31, 2016, TSYS had recognized deferred tax assets from net operating losses, capital losses and federal and state income tax credit carryforwards of $8.5 million, $0.4 million and $25.6 million, respectively. As of December 31, 2015, TSYS had recognized deferred tax assets from net operating losses and federal and state income tax credit carryforwards of $4.5 million and $25.0 million, respectively. Net deferred income tax liabilities were also adjusted for acquisition activities. Refer to Note 23 for more information on acquisitions.

In assessing the realizability of deferred income tax assets, management considers whether it is more likely than not that some portion or all of the deferred income tax assets will not be realized. The ultimate realization of deferred income tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment.

Management believes it is more likely than not that TSYS will realize the benefits of these deductible differences, net of existing valuation allowances. The valuation allowance for deferred tax assets was $21.3 million and $18.4 million at December 31, 2016 and 2015, respectively. The increase in the valuation allowance for deferred income tax assets was $2.9 million for 2016. The increase relates to foreign tax credits which, more likely than not, will not be realized in later years.

TSYS has adopted the permanent reinvestment exception under GAAP, with respect to future earnings of certain foreign subsidiaries. As a result, TSYS considers foreign earnings related to these foreign operations to be permanently reinvested. No provision for U.S. federal and state incomes taxes has been made in the consolidated financial statements for those non-U.S. subsidiaries whose earnings are considered to be reinvested. The amount of undistributed earnings considered to be "reinvested" which may be subject to tax upon distribution was approximately $81.1 million as of December 31, 2016. Although TSYS does not intend to repatriate these earnings, a distribution of these non-U.S. earnings in the form of dividends, or otherwise, would subject the Company to both U.S. federal and state income taxes, as adjusted for non-U.S. tax credits, and withholding taxes payable to the various non-U.S. countries. Determination of the amount of any unrecognized deferred income tax liability on these undistributed earnings is not practicable.

TSYS is the parent of an affiliated group that files a consolidated U.S. federal income tax return and most state and foreign income tax returns on a separate entity basis. In the normal course of business, the Company is subject to examinations by these taxing authorities unless statutory examination periods lapse. TSYS is no longer subject to U.S. federal income tax examinations for years before 2011 and with few exceptions, the Company is no longer subject to income tax examinations

from state and local or foreign tax authorities for years before 2005. There are currently federal income tax examinations in progress for the years 2011 through 2013. Additionally, a number of tax examinations are in progress by the relevant state tax authorities. Although TSYS is unable to determine the ultimate outcome of these examinations, TSYS believes that its liability for uncertain tax positions relating to these jurisdictions for such years is adequate.

GAAP prescribes a recognition threshold and measurement attribute for the financial statement recognition, measurement and disclosure of a tax position taken or expected to be taken in a tax return. During the year ended December 31, 2016, TSYS increased its liability for uncertain income tax positions by a net amount of approximately $3.4 million. The Company is not able to reasonably estimate the amount by which the liability will increase or decrease over time; however, at this time, the Company does not expect any significant changes related to these obligations within the next twelve months.

A reconciliation of the beginning and ending amount of unrecognized tax liabilities is as follows[1]:

(in millions)	Year Ended December 31, 2016
Beginning balance	$13.1
Current activity:	
Additions based on tax positions related to current year	3.4
Additions for tax positions of prior years	3.0
Decreases resulting from settlements with tax authorities	(3.0)
Net, current activity	3.4
Ending balance	$16.5

[1] *Unrecognized state tax liabilities are not adjusted for the federal tax impact.*

TSYS recognizes potential interest and penalties related to the underpayment of income taxes as income tax expense in the Consolidated Statements of Income. Gross accrued interest and penalties on unrecognized tax benefits totaled $1.8 million and $0.7 million as of December 31, 2016 and December 31, 2015, respectively. The total amounts of unrecognized income tax benefits as of December 31, 2016 and December 31, 2015 that, if recognized, would affect the effective tax rates are $17.0 million and $13.2 million (net of the federal benefit on state tax issues), respectively, which includes interest and penalties of $1.2 million and $0.5 million, respectively.

Note 15 Commitments and Contingencies

LEASE AND PURCHASE COMMITMENTS: TSYS is obligated under noncancelable operating leases for computer equipment, software and facilities. Additionally, the Company has long-term obligations which consist of required minimum future payments under contracts withthe Company's distributors and other service providers.

The future minimum lease payments under noncancelable operating leases and purchase commitments with remaining terms greater than one year for the next five years and thereafter and in the aggregate as of December 31, 2016, are as follows:

(in thousands)	
2017	$129,120
2018	132,015
2019	132,242
2020	57,083
2021	21,035
Thereafter	34,644
Total future minimum commitment payments	$506,139

The majority of computer equipment lease commitments come with a renewal option or an option to terminate the lease. These lease commitments may be replaced with new leases which allow the Company to continually update its computer equipment. Total rental expense under all operating leases in 2016, 2015 and 2014 was $122.9 million, $124.8 million and $105.2 million, respectively.

CONTRACTUAL COMMITMENTS: In the normal course of its business, the Company maintains long-term processing contracts with its clients. These processing contracts contain commitments, including, but not limited to, minimum standards and time frames against which the Company's performance is measured. In the event the Company does not meet its contractual commitments with its clients, the Company may incur penalties and certain clients may have the right to terminate their contracts with the Company. The Company does not believe that it will fail to meet its contractual commitments to an extent that will result in a material adverse effect on its financial position, results of operations or cash flows.

CONTINGENCIES:

Legal Proceedings — General

The Company is subject to various legal proceedings and claims and is also subject to information requests, inquiries and investigations arising out of the ordinary conduct of its business. The Company establishes accruals for litigation and similar matters when those matters present loss contingencies that TSYS determines to be both probable and reasonably estimable in accordance with GAAP. Legal costs are expensed as incurred. In the opinion of management, based on current knowledge and in part upon the advice of legal counsel, all matters not specifically discussed below are believed to be adequately covered by insurance, or, if not covered, the possibility of losses from such matters are believed to be remote or such matters are of such kind or involve such amounts that would not have a material adverse effect on the financial position, results of operations or cash flows of the Company if disposed of unfavorably.

Korthals Matter

Central Payment Co., LLC (CPAY), a majority owned joint venture of the Company, has been named as a defendant in a purported class action complaint, Heidarpour v. Central Payment Co., LLC, Civil Action No. 4:15-cv-00139, filed August 18, 2015 in the United States District Court for the Middle District of Georgia, relating to the activities of Korthals, LLC ("Korthals") and its sole shareholder, an independent sales agent of CPAY. The complaint alleges that CPAY retained Korthals to send unsolicited commercial pre-recorded messages to residential phone numbers in violation of the Telephone Consumer Protection Act (47 U.S.C. §§227 et seq.). The complaint seeks damages and injunctive relief among other remedies.

On December 20, 2016, the parties entered into a settlement agreement with regard to this matter. Among other things, the settlement agreement requires CPAY to create a settlement fund of $6.5 million for a nationwide class of plaintiffs. The settlement agreement was preliminarily approved by the United States District Court for the Middle District of Georgia on January 17, 2017, and a final approval hearing for the settlement is scheduled for May 4, 2017.

Federal Trade Commission (FTC) Matter

The Company has been in discussions with the FTC regarding an investigation by the FTC staff of certain marketing practices of NetSpend Corporation (NetSpend), a subsidiary of the Company. After lengthy discussions with staff and the FTC commissioners relating to whether the FTC should proceed with litigation and the potential for settlement, the FTC voted 2-1 to authorize the filing of a complaint, filed on November 10, 2016 in the U.S. District Court for the Northern District of Georgia, Federal Trade Commission v. NetSpend Corporation, Case No. 1:16-CV-4203. The complaint alleges that NetSpend violated Section 5 of the Federal Trade Commission Act as a result of certain marketing practices. NetSpend filed a motion to dismiss the complaint on December 14, 2016, arguing that the complaint failed to state a claim on which relief could be granted. As of December 31, 2016, the parties were engaged in active settlement discussions. While NetSpend believes that it has substantial defenses, it agreed to the structure of a potential settlement with FTC staff in early February 2017, in order to save costs and avoid the risks of on-going litigation. However, NetSpend also raised with the FTC the propriety of the suit being brought in the first instance and any settlement requires FTC approval followed by court approval. The timing of the FTC's consideration of issues relating to NetSpend's position and the potential settlement is uncertain. Should a settlement not be reached, the Company will vigorously defend the case. We are not in a position to estimate the chances of success. The Company incurred a charge of $13.0 million to GAAP operating income in the fourth quarter of 2016 in connection with the settlement discussions.

TelexFree Matter

ProPay, Inc. (ProPay), a subsidiary of the Company, has been named as one of a number of defendants (including other merchant processors) in several purported class action lawsuits relating to the activities of TelexFree, Inc. and its affiliates and principals. TelexFree is a former merchant customer of ProPay. With regard to TelexFree, each purported class action lawsuit generally alleges that TelexFree engaged in an improper multi-tier marketing scheme involving voice-over Internet protocol telephone services. The plaintiffs in each of the purported class action complaints generally allege that the various merchant processor defendants, including ProPay, aided and abetted the improper activities of TelexFree. TelexFree filed for bankruptcy protection in Nevada. The bankruptcy proceeding was subsequently transferred to the Massachusetts Bankruptcy Court.

Specifically, ProPay has been named as one of a number of defendants (including other merchant processors) in each of the following purported class action complaints relating to TelexFree: (i) Waldermara Martin, et al. v. TelexFree, Inc., et al. (Case No. BK-S-14-12524-ABL) filed on May 3, 2014 in the United States Bankruptcy Court District of Nevada, (ii) Anthony Cellucci, et al. v. TelexFree, Inc., et. al. (Case No. 4:14-BK-40987) filed on May 15, 2014 in the United States Bankruptcy Court District of Massachusetts, (iii) Maduako C. Ferguson Sr., et al. v. Telexelectric, LLP, et. al (Case No. 5:14-CV-00316-D) filed on June

5, 2014 in the United States District Court of North Carolina, (iv) Todd Cook v. TelexElectric LLP et al. (Case No. 2:14-CV-00134), filed on June 24, 2014 in the United States District Court for the Northern District of Georgia, (v) Felicia Guevara v. James M. Merrill et al., CA No. 1:14-cv-22405-DPG), filed on June 27, 2014 in the United State District Court for the Southern District of Florida, and (vi) Reverend Jeremiah Githere, et al. v. TelexElectric LLP et al. (Case No. 1:14-CV-12825-GAO), filed on June 30, 2014 in the United States District Court for the District of Massachusetts (together, the "Actions"). On October 21, 2014, the Judicial Panel on Multidistrict Litigation transferred and consolidated the Actions before the United States District Court for the District of Massachusetts (the "Consolidated Action").

Following the Judicial Panel on Multidistrict Litigation's October 21, 2014 order, four additional cases arising from the alleged TelexFree scheme were transferred to the United States District Court for the District of Massachusetts for coordinated or consolidated proceedings, including (i) Paulo Eduardo Ferrari et al. v. Telexfree, Inc. et al. (Case No. 14-04080); (ii) Magalhaes v. TelexFree, Inc., et al., No. 14-cv-12437 (D. Mass.); (iii) Griffith v. Merrill et al., No. 14-CV-12058 (D. Mass.); Abelgadir v. Telexelectric, LLP, No. 14-09857 (S.D.N.Y.) In addition, on September 23, 2015, a putative class action relating to TelexFree was filed in the United States District Court for the District of Arizona, styled *Rita Dos Santos, Putative Class Representatives and those Similarly Situated v. TelexElectric, LLP et al.*, 2:15-cv-01906-NVW (the "Arizona Action"). The Arizona Action makes claims similar to those alleged in the consolidated action pending before the United States District Court for the District of Massachusetts. On September 29, 2015, a group of certain defendants to the Consolidated Action, including ProPay, filed a "tag along" notice with the Judicial Panel on Multidistrict Litigation, asking that the Arizona Action be transferred to the District of Massachusetts where it can be consolidated or coordinated with the Consolidated Action. On October 20, 2015, the Judicial Panel on Multidistrict Litigation transferred the Arizona Action to the District of Massachusetts.

The United States District Court for the District of Massachusetts appointed lead plaintiffs' counsel on behalf of the putative class of plaintiffs in the Consolidated Action. On March 31, 2015, the plaintiffs filed a First Consolidated Amended Complaint (the "Consolidated Complaint"). The Consolidated Complaint purports to bring claims on behalf of all persons who purchased certain TelexFree "memberships" and suffered a "net loss" between January 1, 2012 and April 16, 2014. The Consolidated Complaint supersedes the complaints filed prior to consolidation of the Actions, and alleges that ProPay aided and abetted tortious acts committed by TelexFree, and that ProPay was unjustly enriched in the course of providing payment processing services to TelexFree. On April 30, 2015, the plaintiffs filed a Second Consolidated Amended Complaint (the "Second Amended Complaint"), which amends and supersedes the Consolidated Complaint. Like the Consolidated Complaint, the Second Amended Complaint generally alleges that ProPay aided and abetted tortious acts committed by TelexFree, and that ProPay was unjustly enriched in the course of providing payment processing services to TelexFree.

Several defendants, including ProPay, moved to dismiss the Second Amended Complaint on June 2, 2015.Briefing on those motions closed on October 16, 2015. The court held a hearing on the motions to dismiss on November 2, 2015. At present, pursuant to a court order, all discovery in the action is stayed pending the resolution of parallel criminal proceedings against certain former principals of TelexFree, Inc.

ProPay has also received various subpoenas, a seizure warrant and other inquiries requesting information regarding TelexFree from (i) the Commonwealth of Massachusetts, Securities Division, (ii) United States Securities and Exchange Commission, (iii) US Immigration and Customs Enforcement, and (iv) the bankruptcy Trustee of the Chapter 11 entities of TelexFree, Inc., TelexFree, LLC and TelexFree Financial, Inc. Pursuant to the seizure warrant served by the United States Attorney's Office for the District of Massachusetts, ProPay delivered all funds associated with TelexFree held for chargeback and other purposes by ProPay to US Immigration and Customs Enforcement. In addition, ProPay received a notice of potential claim from the bankruptcy Trustee as a result of the relationship of ProPay with TelexFree and its affiliates.

The above proceedings and actions are preliminary in nature. While the Company and ProPay intend to vigorously defend matters arising out of the relationship of ProPay with TelexFree and believe ProPay has substantial defenses related to these purported claims, the Company currently cannot reasonably estimate losses attributable to these matters.

GUARANTEES AND INDEMNIFICATIONS: The Company has entered into processing and licensing agreements with its clients that include intellectual property indemnification clauses. Under these clauses, the Company generally agrees to indemnify its clients, subject to certain exceptions, against legal claims that TSYS' services or systems infringe on certain third party patents, copyrights or other proprietary rights. In the event of such a claim, the Company is generally obligated to hold the client harmless and pay for related losses, liabilities, costs and expenses, including, without limitation, court costs and reasonable attorney's fees. The Company has not made any indemnification payments pursuant to these indemnification clauses.

A portion of the Company's business is conducted through distributors that provide load and reload services to cardholders at their locations. Members of the Company's distribution and reload network collect cardholder funds and remit them by electronic transfer to the Issuing Banks for deposit in the cardholder accounts. The Company's Issuing Banks typically receive cardholders' funds no earlier than three business days after they are collected by the distributor. If any distributor fails to remit cardholders' funds to the Company's Issuing Banks, the Company typically reimburses the Issuing Banks for the shortfall created thereby. The Company manages the risk associated with this process through a formalized set of credit standards,

volume limits and deposit requirements for certain distributors and by typically maintaining the right to offset any settlement shortfall against the commissions payable to the relevant distributor. To date, the Company has not experienced any significant losses associated with settlement failures and the Company had not recorded a settlement guarantee liability as of December 31, 2016. As of December 31, 2016, the Company's estimated gross settlement exposure was $13.8 million.

GPR cardholders can incur charges in excess of the funds available in their accounts and are liable for the resulting overdrawn account balance. Although the Company generally declines authorization attempts for amounts that exceed the available balance in a cardholder's account, the application of the Networks' rules and regulations, the timing of the settlement of transactions and the assessment of subscription, maintenance or other fees can, among other things, result in overdrawn card accounts. The Company also provides, as a courtesy and in its discretion, certain cardholders with a ''cushion'' that allows them to overdraw their card accounts by up to $10. In addition, eligible cardholders may enroll in the Issuing Banks' overdraft protection programs and fund transactions that exceed the available balance in their accounts. The Company generally provides the funds used as part of these overdraft programs (one of the Company's issuing banks will advance the first $1.0 million on behalf of its cardholders) and is responsible to the Issuing Banks for any losses associated with any overdrawn account balances. As of December 31, 2016 and 2015, cardholders' overdrawn account balances totaled $21.2 million and $17.9 million, respectively. As of December 31, 2016 and 2015, the Company's reserves for the losses it estimates will arise from processing customer transactions, debit card overdrafts, chargebacks for unauthorized card use and merchant-related chargebacks due to non-delivery of goods or services was $10.5 million and $9.4 million, respectively.

The Company has not recorded a liability for guarantees or indemnities in the accompanying consolidated balance sheet since the maximum amount of potential future payments under such guarantees and indemnities is not determinable.

PRIVATE EQUITY INVESTMENTS: The Company has entered into limited partnership agreements in connection with investing in two Atlanta-based venture capital funds focused exclusively on investing in technology-enabled financial services companies. Pursuant to each limited partnership agreement, the Company has committed to invest up to $20.0 million in each fund so long as its ownership interest in each fund does not exceed 50%. As of December 31, 2016 and 2015, the Company had made contributions to the funds of $20.1 million and $15.0 million, respectively. The Company had investments, including gains, totaling $22.8 million and $17.6 million, respectively, as of December 31, 2016 and 2015. The Company recognized gains of $0.8 million, $4.0 million, and $0.8 million due to increases in fair value for the years ended December 31, 2016, 2015 and 2014, respectively.

Note 16 Employee Benefit Plans

The Company provides benefits to its employees by offering employees participation in certain defined contribution plans. The employee benefit plans through which TSYS provided benefits to its employees during 2016 are described as follows:

RETIREMENT SAVINGS AND STOCK PURCHASE PLANS: TSYS maintains a single plan, the Retirement Savings Plan, which is designed to reward all team members of TSYS U.S.-based companies with a uniform employer contribution. The terms of the plan provide for the Company to match 100% of the employee contribution up to 4% of eligible compensation. The Company can make discretionary contributions up to another 4% based upon business conditions.

The Company also maintains a stock purchase plan for employees. The Company contributes 15% of employee contributions. The funds are used to purchase presently issued and outstanding shares of TSYS common stock on the open market at fair market value for the benefit of participants. The Company's contributions to the plans charged to expense for the years ended December 31, 2016, 2015 and 2014 are as follows:

(in thousands)	**2016**	2015	2014
TSYS Retirement Savings Plan	**$21,077**	24,169	17,531
TSYS Stock Purchase Plan	**1,514**	1,378	1,288

POSTRETIREMENT MEDICAL BENEFITS PLAN: TSYS provides certain medical benefits to qualified retirees through a postretirement medical benefits plan, which is immaterial to the Company's consolidated financial statements. The measurement of the benefit expense and accrual of benefit costs associated with the plan do not reflect the effects of the 2003 Medicare Act. Additionally, the benefit expense and accrued benefit cost associated with the plan, as well as any potential impact of the effects of the 2003 Medicare Act, are not significant to the Company's consolidated financial statements.

Note 17 Equity

DIVIDENDS: Dividends on common stock of $73.4 million were paid in 2016, compared to $73.7 million and $74.8 million in 2015 and 2014, respectively.

EQUITY COMPENSATION PLANS: The following table summarizes TSYS' equity compensation plans by category as of December 31, 2016:

(in thousands, except per share data) **Plan Category**	**(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights**	**(b) Weighted-average exercise price of outstanding options, warrants and rights**	**(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)**
Equity compensation plans approved by security holders	4,891	$32.78[2]	6,962[1]

The Company does not have any equity compensation plans that were not approved by security holders.

1 *Shares available for future grants under the Total System Services, Inc. 2007 Omnibus Plan and 2012 Omnibus Plan, which could be in the form of options, nonvested awards and performance shares.*

2 *Weighted-average exercise price represents 2.9 million options only and does not include restricted share units that have no exercise price.*

Note 18 Share-Based Compensation

General Description of Share-Based Compensation Plans

TSYS has various long-term incentive plans under which the Compensation Committee of the Board of Directors has the authority to grant share-based compensation to TSYS employees.

Long-Term Incentive Plans

TSYS maintains the Total System Services, Inc. 2012 Omnibus Plan, Total System Services, Inc. 2007 Omnibus Plan, Total System Services, Inc. 2002 Long-Term Incentive Plan, Total System Services, Inc. 2000 Long-Term Incentive Plan and the Amended and Restated NetSpend Holdings, Inc. 2004 Equity Incentive Plan for Options and Restricted Shares Assumed by Total System Services, Inc. to advance the interests of TSYS and its shareholders through awards that give employees and directors a personal stake in TSYS' growth, development and financial success. Awards under these plans are designed to motivate employees and directors to devote their best efforts to the business of TSYS. Awards will also help TSYS attract and retain the services of employees and directors who are in a position to make significant contributions to TSYS' success.

The plans are administered by the Compensation Committee of the Company's Board of Directors and enable the Company to grant nonqualified and incentive stock options, stock appreciation rights, restricted stock and restricted stock units, performance units or performance shares, cash-based awards and other stock-based awards.

All stock options must have a maximum life of no more than ten years from the date of grant. The exercise price will not be less than 100% of the fair market value of TSYS' common stock at the time of grant. Any shares related to awards which terminate by expiration, forfeiture, cancellation or otherwise are settled in shares, or are exchanged with the Committee's permission, prior to the issuance of shares, for awards not involving shares, shall be available again for grant under the various plans. The aggregate number of shares of TSYS stock which may be granted to participants pursuant to awards granted under the various plans may not exceed the following: Total System Services, Inc. 2012 Omnibus Plan — 17 million shares; Total System Services, Inc. 2007 Omnibus Plan — 5 million shares; Total System Services, Inc 2002 Long — Term Incentive Plan — 9.4 million shares; and Total System Services, Inc. 2000 Long-Term Incentive Plan — 2.4 million shares. Effective February 1, 2010 and March 5, 2012, no additional awards may be made from the Total System Services, Inc. 2000 and 2002 Long-Term Incentive Plans, respectively.

Share-Based Compensation

Share-based compensation costs are classified as selling, general and administrative expenses on the Company's statements of income and corporate administration and other expenses for segment reporting purposes. TSYS' share-based compensation costs are expensed, rather than capitalized, as these awards are typically granted to individuals not involved in capitalizable activities. For the year ended December 31, 2016, share-based compensation was $43.7 million compared to $41.5 million and $30.8 million for the same periods in 2015 and 2014, respectively.

Nonvested Awards

The Company granted shares of TSYS common stock to certain key employees and non-management members of its Board of Directors. The grants to certain key employees were issued under nonvested stock bonus awards and are typically for services to be provided in the future and vest over a period of up to four years. The grants to the Board of Directors were fully vested on the date of grant. The market value of the TSYS common stock at the date of issuance is charged as compensation expense over the vesting periods or derived service periods.

The following table summarizes the number of shares granted each year.

	2016	2015	2014
Number of shares granted	**362,804**	388,211	672,724
Market value (*in millions*)	**$ 16.8**	14.9	20.6

A summary of the status of TSYS' nonvested shares as of December 31, 2016, 2015 and 2014 and the changes during the periods are presented below:

	2016		2015		2014	
(in thousands, except per share data) Nonvested shares	**Shares**	**Weighted Average Grant-Date Fair Value**	Shares	Weighted Average Grant-Date Fair Value	Shares	Weighted Average Grant-Date Fair Value
Outstanding at beginning of year	**1,146**	**$31.11**	1,769	$26.75	1,783	$24.19
Granted	**363**	**46.23**	388	38.38	673	30.67
Vested	**(562)**	**29.95**	(930)	26.05	(602)	23.74
Forfeited/canceled/adjusted	**(84)**	**36.79**	(81)	28.78	(85)	25.47
Outstanding at end of year	**863**	**$37.78**	1,146	$31.11	1,769	$26.75

As of December 31, 2016, there was approximately $17.7 million of total unrecognized compensation cost related to nonvested share-based compensation arrangements. That cost is expected to be recognized over a remaining weighted average period of 1.7 years.

Performance- and Market-Based Awards

The Company granted performance- and market-based shares to certain key executives. The Company has also granted performance-based shares to certain key employees. The performance- and market-based goals are established by the Compensation Committee of the Board of Directors and will vest up to a maximum of 200%. During 2016 and 2015, the Compensation Committee established performance goals based on adjusted EPS, Merchant Segment net revenue, corporate accountability operating income, attainment of synergies from the TransFirst acquisition, revenue growth and revenues before reimbursable items and market goals based on Total Shareholder Return (TSR) as compared to the TSR of the companies in the S&P 500 over the performance period.

Compensation expense for performance-based shares is measured on the grant date based on the quoted market price of TSYS common stock. The Company estimates the probability of achieving the goals through the performance period and expenses the awards on a straight-line basis over the derived service period. The fair value of market-based awards is estimated on the grant date using a Monte Carlo simulation model. The Company expenses market-based awards on a straight-line basis. Compensation costs related to performance- and market-based shares are recognized through the longer of the performance period, the vesting period, or the derived service period. As of December 31, 2016, there was approximately $18.6 million of unrecognized compensation cost related to TSYS performance-based awards that is expected to be recognized through December 2018. As of December 31, 2016, there was approximately $1.9 million of unrecognized compensation cost related to TSYS market-based awards that is expected to be recognized through December 2018.

The following table summarizes the market-based awards granted during the years 2016 and 2015:

Year Awarded	Performance Period Ending	Performance Measure	Number of Shares Granted	Period Expensed Through
2016	December 2017	TSR	6,403	December 2017
2016	December 2018	TSR	52,404	December 2018
2015	July 2016, 2017 and 2018	TSR	25,000	July 2018
2015	December 2017	TSR	57,982	December 2017

The following table summarizes the performance-based awards granted during the years 2016, 2015 and 2014:

Year Awarded	Performance Period Ending	Performance Measure	Number of Shares Granted	Period Expensed Through
2016	December 2016	Revenues before Reimbursable Items and Adjusted EPS	15,605	December 2016
2016	December 2017	Adjusted EPS	14,940	December 2017
2016	December 2018	Merchant Segment Net Revenue, Corporate Accountability Operating Income and attainment of synergies from TransFirst acquisition	29,332	December 2018
2016	December 2018	Revenues before Reimbursable Items and Adjusted Operating Income	67,517	December 2018
2016	December 2018	Merchant Segment Net Revenue and Corporate Accountability Operating Income	78,220	December 2018
2016	December 2018	Adjusted EPS	122,284	December 2018
2016	December 2016	Revenues before Reimbursable Items and Adjusted EPS	144,995	December 2018
2015	December 2017	Adjusted EPS	135,289	December 2017
2015	December 2015	Revenues before Reimbursable Items and Adjusted EPS	165,543	December 2018
2014	December 2016	Revenues before Reimbursable Items and Adjusted EPS	211,593	December 2016

A summary of the awards authorized in each year is below:

	Total Number of Shares Awarded[1]	Potential Number of Performance- and Market-Based Shares to be Vested[2]	Year Potential Performance- and Market-Based Shares Will Fully Vest
2016	**531,700**	**903,364**	**2019**
2015	383,814	687,015	2018
2014	211,593	389,242	2017

[1] *Shares awarded does not include dividend equivalents*
[2] *Includes dividend equivalents*

A summary of the status of TSYS' performance- and market-based nonvested shares as of December 31, 2016, 2015 and 2014 and changes during those periods are presented below:

(in thousands, except per share data)	**2016**		2015		2014	
Performance- and market-based nonvested shares	**Shares**	**Weighted Average Grant Date Fair Value**	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value
Outstanding at beginning of year	**918**	**$31.19**	766	$25.86	1,049	$22.75
Granted	**540**	**45.91**	384	36.84	211	30.89
Vested	**(140)**	**37.91**	(241)	22.92	(258)	17.57
Forfeited/canceled/adjusted	**(336)**	**37.70**	9	22.20	(236)	25.62
Outstanding at end of year	**982**	**$33.43**	918	$31.19	766	$25.86

Stock Option Awards

Stock options generally become exercisable in three equal annual installments on the anniversaries of the date of grant and expire ten years from the date of grant. The required service period for retirement eligible employees is typically 12 or 18 months. For retirement eligible employees who retire prior to completing this required service period, the options vest on a

pro-rata basis based upon the number of months employed during the full service period. For retirement eligible employees who retire after the required 18-month service period, the options become fully vested upon retirement. For retirement eligible employees who retire after the required 12-month service period, the option holder is deemed to have continued employment through the end of the vesting period and the options continue to vest in accordance with their terms.

During 2016, 2015 and 2014, the Company granted stock options to key TSYS executive officers and non-management members of its Board of Directors. The grants to key TSYS executive officers were issued for services to be provided in the future and vest over a period of three years. The grants to the Board of Directors were fully vested on the date of grant. The weighted average fair value of the options granted was estimated on the date of grant using the Black-Scholes-Merton option-pricing model.

The following table summarizes the weighted average assumptions, and the weighted average fair value of the options:

	2016	2015	2014
Number of options granted	**687,685**	613,473	1,046,372
Weighted average exercise price	**$ 47.01**	$ 39.01	$ 30.96
Risk-free interest rate	**1.24%**	1.73%	2.01%
Expected volatility	**21.53%**	20.80%	25.06%
Expected term (years)	**4.5**	6.3	6.5
Dividend yield	**0.86%**	1.04%	1.29%
Weighted average fair value	**$ 8.50**	$ 8.27	$ 7.66

A summary of TSYS' stock option activity as of December 31, 2016, 2015 and 2014, and changes during the years ended on those dates is presented below:

Options: *(in thousands, except per share data)*	**2016**		2015		2014	
	Options	**Weighted Average Exercise Price**	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of year	**2,887**	**$28.07**	4,892	$23.83	5,752	$20.96
Granted	**688**	**47.01**	613	39.01	1,046	30.96
Exercised	**(500)**	**23.43**	(2,586)	22.68	(1,850)	18.79
Forfeited/canceled	**(79)**	**43.49**	(32)	20.79	(56)	28.88
Outstanding at end of year	**2,996**	**$32.78**	2,887	$28.07	4,892	$23.83
Options exercisable at year-end	**1,877**	**$28.45**	1,439	$25.17	2,781	$22.86
Weighted average fair value of options granted during the year		**$ 8.50**		$ 8.27		$ 7.66

As of December 31, 2016 the average remaining contractual life and intrinsic value of TSYS' outstanding and exercisable stock options were as follows:

	Outstanding	**Exercisable**
Average remaining contractual life (in years)	7.3	6.6
Aggregate intrinsic value (in thousands)	$49,323	39,066

Shares Issued for Options Exercised

During 2016, 2015 and 2014, employees of the Company exercised options for shares of TSYS common stock that were issued from treasury. The table below summarizes these stock option exercises by year:

(in thousands)	**Options Exercised and Issued from Treasury**	**Intrinsic Value**
2016	**500**	**$12,984**
2015	2,586	67,702
2014	1,850	22,883

For awards granted before January 1, 2006 that were not fully vested on January 1, 2006, the Company recorded the tax benefits from the exercise of stock options as increases to the "Additional paid-in capital" line item of the Consolidated Balance Sheets. If the Company recognized tax benefits, the Company recorded these tax benefits from share-based compensation costs as cash inflows in the financing section and cash outflows in the operating section in the Statement of Cash Flows. The Company elected to use the short-cut method to calculate its historical pool of windfall tax benefits.

As of December 31, 2016, there was approximately $2.7 million of total unrecognized compensation cost related to TSYS stock options that is expected to be recognized over a remaining weighted average period of 1.6 years.

Note 19 Treasury Stock

The following table summarizes shares held as treasury stock and their related carrying value as of December 31:

(in thousands)	Number of Treasury Shares	Treasury Shares Cost
2016	**19,314**	**$646,047**
2015	19,988	641,664
2014	17,836	453,230

Stock Repurchase Plan

In April 2010, TSYS announced a stock repurchase plan to purchase up to 10 million shares of TSYS stock. The shares may be purchased from time to time over the next two years at prices considered attractive to the Company. By January 2014, the TSYS Board had approved several increases in the number of shares that could be repurchased under its share repurchase plan to up to 28 million shares of TSYS stock. The expiration date of the plan was extended to April 30, 2015. In January 2015, TSYS announced that its Board had approved a new stock repurchase plan to purchase up to 20 million shares of TSYS stock. The shares may be purchased from time to time at prices considered appropriate. There is no expiration date for the plan. The previous plan was terminated.

The table below summarizes these repurchases by year:

(in thousands, except per share data)	Total Number of Shares Purchased	Average Price Paid per Share	Repurchased Shares Cost
2016	**500**	**$48.57**	**$ 24,287**
2015	5,150	47.01	242,085
2014	5,200	31.79	165,297

The following table sets forth information regarding the Company's purchases of its common stock on a monthly basis during the three months ended December 31, 2016:

(in thousands, except per share data)	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Cumulative shares Purchased as Part of Publicly announced Plans or Programs	Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs
October 2016	—	$ —	5,150	14,850
November 2016	200	49.29	5,350	14,650
December 2016	312[1]	48.13	5,650	14,350
Total	512	$48.59		

[1] *Includes delivery of shares to TSYS on vesting of shares to pay taxes.*

Treasury Shares

In 2008, the Compensation Committee approved "share withholding for taxes" for all employee nonvested awards, and also for employee stock options under specified circumstances. The dollar amount of the income tax liability from each exercise is converted into TSYS shares and withheld at the statutory minimum. The shares are added to the treasury account and TSYS remits funds to the Internal Revenue Service to settle the tax liability. During 2016 and 2015, the Company acquired 144,839 shares for approximately $6.0 million and acquired 3,344 shares for approximately $0.2 million, respectively, as a result of share withholding for taxes.

Note 20 Other Comprehensive Income (Loss)

Comprehensive income (loss) for TSYS consists of net income, cumulative foreign currency translation adjustments, unrealized gains on available for sale securities and the recognition of an overfunded or underfunded status of a defined benefit postretirement plan recorded as a component of shareholders' equity. The income tax effects allocated to and the cumulative balance of each component of accumulated other comprehensive income (loss) are as follows:

(in thousands)	Beginning Balance	Pretax amount	Tax effect	Net-of-tax Amount	Ending Balance
As of December 31, 2013	$ 1,408	4,441	2,100	$ 2,341	$ 3,749
Foreign currency translation adjustments	$ 2,004	(17,143)	(1,547)	$ (15,596)	$ (13,592)
Transfer from noncontrolling interest (NCI)	28	—	—	—	28
Loss on available for sale securities	1,773	(1,058)	(390)	(668)	1,105
Change in AOCI related to postretirement healthcare plans	(56)	921	332	589	533
As of December 31, 2014	$ 3,749	(17,280)	(1,605)	$ (15,675)	$ (11,926)
Foreign currency translation adjustments	$ (13,592)	(22,997)	(1,548)	(21,449)	$ (35,041)
Transfer from NCI	28	—	—	—	28
Gain on available for sale securities	1,105	2,177	779	1,398	2,503
Change in AOCI related to postretirement healthcare plans	533	(2,449)	(882)	(1,567)	(1,034)
As of December 31, 2015	$ (11,926)	(23,269)	(1,651)	$ (21,618)	$ (33,544)
Foreign currency translation adjustments	**$(35,041)**	**(36,341)**	**(5,872)**	**$(30,469)**	**$(65,510)**
Transfer from NCI	**28**	**—**	**—**	**—**	**28**
Gain on available for sale securities	**2,503**	**11,394**	**4,035**	**7,359**	**9,862**
Change in AOCI related to postretirement healthcare plans	**(1,034)**	**775**	**279**	**496**	**(538)**
As of December 31, 2016	**$(33,544)**	**(24,172)**	**(1,558)**	**$(22,614)**	**$(56,158)**

Consistent with its overall strategy of pursuing international investment opportunities, TSYS adopted the permanent reinvestment exception under GAAP, with respect to future earnings of certain foreign subsidiaries. Its decision to permanently reinvest foreign earnings offshore means TSYS will no longer allocate taxes to foreign currency translation adjustments associated with these foreign subsidiaries accumulated in other comprehensive income.

Note 21 Segment Reporting, including Geographic Area Data and Major Customers

TSYS provides global payment processing and other services to card-issuing and merchant acquiring institutions in the United States and internationally through online accounting and electronic payment processing systems. Corporate expenses, such as finance, legal, human resources, mergers and acquisitions and investor relations are categorized as Corporate Administration and Other.

In April 2016, TSYS completed its acquisition of TransFirst which is part of the Merchant Services segment and its results are included in the following tables. Refer to Note 23 for more information on acquisitions.

North America Services includes electronic payment processing services and other services provided from within the North America region. International Services includes electronic payment processing and other services provided from outside the North America region. Merchant Services includes electronic processing and other services provided to merchants and merchant acquirers. The Netspend segment provides GPR prepaid debit and payroll cards and alternative financial service solutions to the underbanked and other consumers in the United States.

At TSYS, the chief operating decision maker (CODM) is a group consisting of Senior Executive Management and above. In 2014, the CODM decided that all share-based compensation costs should be included in the category ''Corporate Administration and Other'' for purposes of segment disclosures. The information utilized by the CODM consists of the financial statements and the main metrics monitored are revenue growth and growth in profitability.

TSYS' operating segments share certain resources, such as information technology support, that TSYS allocates asymmetrically.

Operating Segments *(in thousands)*	**Years Ended December 31,** **2016**	2015	2014
Operating income (GAAP) (a)	**$ 573,382**	534,107	431,640
Share-based compensation	**43,728**	41,549	30,790
TransFirst and Netspend M&A and integration expenses[1]	**28,176**	—	3,217
Litigation, claims, judgments or settlements	**21,719**	—	—
Acquisition intangible amortization	**189,990**	92,521	96,970
Adjusted operating income (non-GAAP) (b)	**$ 856,995**	668,177	562,617
Adjusted operating income by segment (non-GAAP):			
North America Services (c)	**$ 468,251**	429,064	351,512
International Services (d)	**56,774**	60,087	55,123
Merchant Services (e)	**307,595**	150,225	134,872
Netspend (f)	**160,371**	137,837	128,285
Corporate Administration and Other	**(135,996)**	(109,036)	(107,175)
Adjusted segment operating income[2] (non-GAAP)	**$ 856,995**	668,177	562,617
Total revenues (GAAP) (g)	**$4,170,077**	2,779,541	2,446,877
Less: reimbursable items	**259,543**	280,192	253,899
Revenue before reimbursable items	**3,910,534**	2,499,349	2,192,978
Intersegment revenues	**39,880**	33,481	21,224
Segment revenue before reimbursable items (non-GAAP)	**$3,950,414**	2,532,830	2,214,202
Segment revenue before reimbursable items (non-GAAP):			
North America Services	**$1,206,013**	1,147,254	954,082
International Services	**313,631**	331,159	341,785
Merchant Services	**1,767,191**	474,040	435,649
Netspend	**663,579**	580,377	482,686
Segment revenue before reimbursable items (non-GAAP)	**$3,950,414**	2,532,830	2,214,202
Total revenues (GAAP) (g)	**$4,170,077**	2,779,541	2,446,877
Less: reimbursable items	**259,543**	280,192	253,899
Revenue before reimbursable items	**3,910,534**	2,499,349	2,192,978
Less: interchange and assessments expenses	**868,658**	—	—
Net revenue[2] (non-GAAP) (h)	**3,041,876**	2,499,349	2,192,978
Intersegment revenues	**39,880**	33,481	21,224
Segment net revenue (non-GAAP)	**$3,081,756**	2,532,830	2,214,202
Segment net revenue (non-GAAP):			
North America Services (i)	**$1,206,013**	1,147,254	954,082
International Services (j)	**313,631**	331,159	341,785
Merchant Services (k)	**898,533**	474,040	435,649
Netspend (l)	**663,579**	580,377	482,686
Segment net revenue (non-GAAP)	**$3,081,756**	2,532,830	2,214,202
Segment external net revenue (non-GAAP):			
North America Services	**$1,174,304**	1,118,332	936,957
International Services	**308,552**	326,834	338,126
Merchant Services	**898,175**	473,806	435,209
Netspend	**660,845**	580,377	482,686
Segment external net revenue (non-GAAP)	**$3,041,876**	2,499,349	2,192,978
Operating margin (GAAP) (a)/(g)	**13.8%**	19.2%	17.6%
Adjusted operating margin on net revenue (non-GAAP) (b)/(h)	**28.2%**	26.7%	25.7%
Adjusted segment operating margin on net revenue (non-GAAP):			
North America Services (c)/(i)	**38.8%**	37.4%	36.8%
International Services (d)/(j)	**18.1%**	18.1%	16.1%
Merchant Services (e)/(k)	**34.2%**	31.7%	31.0%
Netspend (f)/(l)	**24.2%**	23.7%	26.6%

[1] *Excludes share-based compensation*

[2] *Net revenue and adjusted segment operating income are non-GAAP measures. Net revenue is total revenues less reimbursable items (such as postage), as well as, merchant acquiring interchange and assessment fees charged by the card associations or payment networks that are recorded by TSYS as expense. Adjusted segment operating income excludes acquisition intangible amortization, TransFirst M&A expenses, share-based compensation and expenses associated with Corporate Administration and Other.*

The following table presents the Company's depreciation expense by segment:

Operating Segments *(in thousands)*	Years Ended December 31,		
	2016	2015	2014
Depreciation and amortization:			
North America Services	**$110,343**	99,544	86,513
International Services	**30,966**	34,892	38,909
Merchant Services	**25,553**	18,268	14,571
Netspend	**13,133**	10,686	7,509
Segment depreciation and amortization	**179,995**	163,390	147,502
Acquisition intangible amortization	**189,990**	92,521	96,970
Corporate Administration and Other	**3,561**	2,353	2,148
Total depreciation and amortization	**$373,546**	258,264	246,620

The following table presents the Company's total assets by segment:

(in thousands)	As of December 31,	
	2016	2015
North America Services	**$ 5,595,747**	3,485,924
Merchant Services	**3,295,509**	689,781
Netspend	**1,474,595**	1,504,740
International Services	**296,663**	348,714
Intersegment assets	**(4,296,337)**	(2,151,264)
Total assets	**$ 6,366,177**	3,877,895

The Company maintains property and equipment, net of accumulated depreciation and amortization, in the following geographic areas:

(in thousands)	As of December 31,	
	2016	2015
United States	**$236,913**	241,814
Europe	**38,866**	41,953
Other	**6,566**	6,131
Total	**$282,345**	289,898

The following tables reconcile geographic revenues to external revenues by operating segment based on the domicile of the Company's customers for the years ended December 31:

(in thousands)	2016 North America Services	International Services	Merchant Services	Netspend	Total	Percentage of Revenues
United States	**$1,032,381**	**—**	**1,826,775**	**660,845**	**$3,520,001**	**84.4%**
Europe[1]	**788**	**306,106**	**227**	**—**	**307,121**	**7.4**
Canada[1]	**284,005**	**23**	**705**	**—**	**284,733**	**6.8**
Mexico	**14,887**	**447**	**—**	**—**	**15,334**	**0.4**
Other[1]	**17,804**	**24,322**	**762**	**—**	**42,888**	**1.0**
Total	**$1,349,865**	**330,898**	**1,828,469**	**660,845**	**$4,170,077**	**100.0%**

(in thousands)	2015 North America Services	International Services	Merchant Services	Netspend	Total	Percentage of Revenues
United States	$ 981,588	—	548,079	580,377	$2,110,044	75.9%
Europe[1]	796	303,832	22	—	304,650	11.0
Canada[1]	288,728	—	355	—	289,083	10.4
Mexico	16,558	—	—	—	16,558	0.6
Other[1]	18,329	40,198	679	—	59,206	2.1
Total	$1,305,999	344,030	549,135	580,377	$2,779,541	100.0%

(in thousands)	2014 North America Services	International Services	Merchant Services	Netspend	Total	Percentage of Revenues
United States	$ 778,766	—	508,747	482,686	$1,770,199	72.3%
Europe[1]	781	304,308	—	—	305,089	12.5
Canada[1]	290,248	—	248	—	290,496	11.9
Mexico	16,216	—	—	—	16,216	0.7
Other[1]	16,305	47,888	684	—	64,877	2.7
Total	$1,102,316	352,196	509,679	482,686	$2,446,877	100.0%

[1] *Revenues are impacted by movements in foreign currency exchange rates*

MAJOR CUSTOMER: For the years ended December 31, 2016, 2015 and 2014, the Company had no major customers.

Note 22 Supplemental Cash Flow Information

Nonvested Share Awards

The Company has issued shares of TSYS common stock to certain key employees and non-management members of its Board of Directors. The grants to certain key employees were issued in the form of nonvested stock bonus awards for services to be provided in the future by such officers and employees. The grants to the Board of Directors were fully vested on the date of grant. Refer to Note 18 for more information on nonvested share awards.

Equipment Acquired Under Capital Lease Obligations and Software Acquired Under License Agreements

The Company acquired computer equipment under capital leases and software under license agreements in the amount of \$1.8 million, \$4.1 million and \$17.9 million in 2016, 2015 and 2014, respectively.

Software Acquired Under Direct Financing

The Company did not acquire any software under direct financing in 2016. The Company acquired software under direct financing in the amount of \$30.0 million and \$13.6 million in 2015 and 2014, respectively. Refer to Note 12 for more information.

Note 23 Acquisitions

TransFirst

2016

On April 1, 2016, the Company acquired all of the outstanding capital stock of TransFirst for an aggregate purchase price of $2.35 billion in cash as of the closing, which was subject to certain working capital and other adjustments, as described in the Purchase Agreement. TransFirst previously operated as a privately held company, under the ownership of Vista Equity Partners. The results of the newly acquired business are being reported by TSYS as part of the Merchant Services segment.

The Company funded the cash consideration and the payment of transaction related expenses through a combination of cash-on-hand and proceeds from debt financings, including proceeds drawn under the Company's 2016 Credit Agreement and the proceeds from the issuance of the 2016 Notes, which together included proceeds of approximately $2.35 billion.

The goodwill amount of $1.7 billion arising from the acquisition is primarily attributable to the expansion of the Merchant Services Segment's customer base, differentiated distribution channels and economies of scale expected from combining the operations of TSYS and TransFirst. All of the goodwill was assigned to TSYS' Merchant Services segment. The goodwill recognized is not expected to be deductible for income tax purposes.

The following table summarizes the consideration paid for TransFirst and the preliminary recognized amounts of the identifiable assets acquired and liabilities assumed on April 1, 2016 (the acquisition date) as of December 31, 2016.

(in thousands)	
Consideration	
Cash	$2,351,400
Fair value of total consideration transferred	$2,351,400
Recognized amounts of identifiable assets acquired and liabilities assumed:	
Cash	$ 5,907
Accounts receivable, net	62,313
Property, equipment and software	12,726
Identifiable intangible assets	814,131
Deferred tax asset	2,244
Other assets	7,509
Deferred tax liability	(224,654)
Other liabilities	(56,864)
Total identifiable net assets	623,312
Goodwill	1,728,088
Total identifiable assets acquired and liabilities assumed	$2,351,400

During 2016, there was a $55,000 increase in the purchase price due to the working capital adjustment required by the Purchase Agreement. In addition, there was a $2.0 million decrease in identifiable intangible assets, a $363,700 increase in liabilities and an $18.0 million increase in deferred tax liabilities that resulted in a net increase to goodwill of $20.4 million. The measurement period during which changes in assets, liabilities, equity interests, or items of consideration are subject to adjustment ends up to one year following the acquisition date.

Identifiable intangible assets acquired in the TransFirst acquisition include merchant relationships, channel partners, current technology, the TransFirst trade name, non-compete agreements and a favorable lease. The identifiable intangible assets had no significant estimated residual value. These intangible assets are being amortized over their estimated useful lives of one to ten years based on the pattern of expected future economic benefit, which approximates a straight-line basis over the useful lives of the assets. The fair value of the acquired identifiable intangible assets of $814.1 million was estimated using the income approach (discounted cash flow and relief from royalty methods) and cost approach. The fair values and useful lives of the identified intangible assets were primarily determined using forecasted cash flows, which included estimates for certain assumptions such as revenues, expenses, attrition rates and royalty rates. The estimated fair value of identifiable intangible assets acquired in the acquisition and the related estimated weighted average useful lives are as follows:

(in millions)	Fair Value	Weighted Average Useful Life *(in years)*
Merchant relationships	$588.0	7.0
Channel partners	121.0	10.0
Current technology	72.0	5.0
Trade name	16.0	1.0
Covenants not-to-compete	15.0	3.0
Favorable lease	2.1	5.6
Total acquired identifiable intangible assets	$814.1	7.1

The fair value measurement of the identifiable intangible assets represents Level 2 and Level 3 measurements as defined by GAAP. Key assumptions include (a) cash flow projections based on market participant and internal data, (b) a discount rate of 8.5%, (c) a pre-tax royalty rate range of 1%- 3%, (d) attrition rates of 11%- 16%, (e) an effective tax rate of 40%, and (f) a terminal value based on a long-term sustainable growth rate of 3%.

In connection with the acquisition, TSYS incurred $32.3 million in acquisition related costs primarily related to professional, legal and accounting costs, and integration expenses which are recorded in selling, general and administrative expenses and $9.8 million related to the bridge term loan facility, which is included in interest expense. These costs are expensed as incurred and are included on the income statement for the twelve months ended December 31, 2016. The Company recorded $1.3 billion of revenue and $30.0 million of operating income since the acquisition date that is included in the consolidated results through the twelve months ended December 31, 2016 as a result of the TransFirst acquisition.

Pro Forma Results of Operations

The following unaudited pro forma information shows the results of operations for the twelve months ended December 31, 2016 and December 31, 2015 as if the acquisition of TransFirst had occurred on January 1, 2015. The unaudited pro forma information reflects certain pro forma adjustments to the combined historical financial information of TSYS and TransFirst. The pro forma adjustments include incremental amortization and depreciation expense, incremental interest expense associated with new long-term debt, a reduction of revenues and operating expenses associated with contracts existing between the companies and the elimination of nonrecurring transaction costs directly related to the acquisition.

	Actual		**Supplemental pro forma**	
	Years Ended December 31,		**Years Ended December 31,**	
(in thousands, except per share data)	**2016**	2015	**2016**	2015
Revenue	**$4,170,077**	2,779,541	**4,562,236**	3,230,703
Net income attributable to TSYS common shareholders	**$ 319,638**	364,044	**347,248**	317,549
Basic EPS attributable to TSYS common shareholders	**$ 1.74**	1.98	**1.89**	1.73
Diluted EPS attributable to TSYS common shareholders	**$ 1.73**	1.97	**1.88**	1.72

The unaudited pro forma financial information presented above does not purport to represent what the actual results of operations would have been if the acquisition of TransFirst's operations had occurred prior to January 1, 2015, nor is it indicative of the future operating results of TSYS. The unaudited pro forma financial information does not reflect the impact of future events that may occur after the acquisition, including, but not limited to, anticipated cost savings from operating synergies.

The unaudited pro forma financial information presented in the table above has been adjusted to give effect to adjustments that are (1) directly related to the business combination; (2) factually supportable; and (3) expected to have a continuing impact. These adjustments include, but are not limited to, the application of accounting policies; and depreciation and amortization related to fair value adjustments to property, plant and equipment and intangible assets.

The pro forma adjustments do not reflect the following material items that result directly from the acquisition and which impacted the statement of operations following the acquisition:

- *Acquisition and related financing transaction costs relating to fees to investment bankers, attorneys, accountants, and other professional advisors, and other transaction-related costs that were not capitalized as deferred financing costs; and*
- *The effect of anticipated cost savings or operating efficiencies expected to be realized and related restructuring charges such as technology and infrastructure integration expenses, and other costs related to the integration of TransFirst into TSYS.*

EMEA

2016

In March 2016, the Company completed the acquisition of the remaining 45% interest in TSYS Managed Services EMEA Limited (EMEA) from Merchants Limited. The Company acquired the outstanding stock from Merchants Limited for approximately £4.2 million, or $5.9 million, in cash. In connection with the purchase, the Company repaid the outstanding balance of the existing debt between EMEA and Merchants Limited of approximately £2.2 million, or $3.0 million.

Netspend

2016

In 2016, TSYS adjusted the goodwill associated with the Netspend acquisition by $584,000 as a result of adjustments to the deferred tax assets acquired in the transaction.

2015

In September 2015, TSYS purchased certain assets for its Netspend segment for $750,000. The purchase qualifies as a business combination in accordance with GAAP. The Company recorded an acquisition technology intangible asset for the amount of the purchase price. This acquisition intangible asset represents software and is being amortized over a five year life. There were no other material assets included in the purchase. The acquisition included the employment of certain key employees which resulted in the transaction qualifying as a business combination.

In 2015, the Company adjusted goodwill for Netspend to include an additional $627,000 for a change in deferred taxes associated with the acquisition. For more information, refer to Note 6.

2014

Netspend shareholders received $16.00 in cash for each share of Netspend common stock. There were 1.6 million Netspend shares held by five shareholders who asserted appraisal (or dissenters') rights with respect to their Netspend shares, for a preliminary value of $25.7 million at $16.00 per share that were not funded at the closing of the acquisition. During 2014, TSYS paid $38.6 million to dissenting shareholders to settle the lawsuit. In 2014, the Company increased goodwill for Netspend by $8.5 million due to changes during the measurement period.

Redeemable Noncontrolling Interest

The fair value of the noncontrolling interest in CPAY, owned by CPC Holding Company, LLC, a California limited liability company, was based on the actual purchase price paid for the controlling interest in CPAY. Next, adjustments were made for lack of control and lack of marketability that market participants would consider when estimating the fair value of the noncontrolling, non-marketable interest in CPAY.

In connection with the acquisition of CPAY, the Company is party to call and put arrangements with respect to the membership units that represent the remaining noncontrolling interest of CPAY. The call arrangement is exercisable by TSYS and the put arrangement is exercisable by the Seller. The put arrangement is outside the control of the Company by requiring the Company to purchase the Seller's entire equity interest in CPAY at a put price at fair market value. At the time of the original acquisition, the redemption of the put option was considered probable based upon the passage of time of the second anniversary date. The put arrangement is recorded on the balance sheet and is classified as redeemable noncontrolling interest outside of permanent equity.

In February 2014, the Company purchased an additional 15% equity interest in CPAY for $37.5 million, reducing its redeemable noncontrolling interest in CPAY to 25%. As a result of this transaction, the call and put arrangements for CPAY, representing 25% of its total outstanding equity interests, were extended and may now be exercised at the discretion of TSYS or the Seller on the third anniversary of the closing of the additional purchase and upon the recurrence of certain other specified events.

The put option was not redeemable on December 31, 2016, but redemption was considered probable based upon the passage of time of the third anniversary date of the 2014 purchase of additional equity. As such, the Company has adopted the accounting policy to accrete changes in the redemption value over the period from the date of issuance to the earliest redemption date, which the Company believes to be in 2017. If the put option was redeemable as of December 31, 2016, the redemption value was estimated to be approximately $27.4 million. The Company did not accrete any changes to the redemption value as the balance as of December 31, 2016 exceeded the accretion fair value amount.

Note 24 Collaborative Arrangement

TSYS has a 45% ownership interest in an enterprise jointly owned with two other entities which operates aircraft for the owners' internal use. The arrangement allows each entity access to the aircraft and each entity pays for its usage of the aircraft. Each quarter, the net operating costs of the enterprise are shared among the owners.

Note 25 Earnings Per Share

The following table illustrates basic and diluted EPS under the guidance of GAAP for the years ended December 31, 2016, 2015 and 2014:

(in thousands, except per share data)	**2016** **Common Stock**	2015 Common Stock	2014 Common Stock
Basic EPS:			
Net income attributable to TSYS common shareholders	**$319,638**	$364,044	$322,872
Less income allocated to nonvested awards	**(1,557)**	(3,164)	(3,308)
Net income allocated to common stock for EPS calculation(a)	**318,081**	$360,880	$319,564
Average common shares outstanding(b)	**182,744**	182,465	184,297
Basic EPS(a)/(b)	**$ 1.74**	$ 1.98	$ 1.73
Diluted EPS:			
Net income attributable to TSYS common shareholders	**$319,638**	$364,044	$322,872
Less income allocated to nonvested awards	**(1,557)**	(3,148)	(3,288)
Add income allocated to nonvested awards[1]	**1,557**	—	—
Net income allocated to common stock for EPS calculation(c)	**$319,638**	$360,896	$319,584
Average common shares outstanding	**182,744**	182,465	184,297
Increase due to assumed issuance of shares related to common equivalent shares outstanding	**813**	1,157	1,459
Average nonvested awards[1]	**891**	—	—
Average common and common equivalent shares outstanding(d)	**184,448**	183,622	185,756
Diluted EPS(c)/(d)	**$ 1.73**	$ 1.97	$ 1.72

(in thousands, except per share data)	**2016** **Participating Securities**	2015 Participating Securities	2014 Participating Securities
Basic EPS:			
Net income allocated to nonvested awards(a)	**$ 1,557**	3,164	3,308
Nonvested awards(b)	**911**	1,617	1,925
Basic EPS(a)/(b)	**$ 1.71**	1.96	1.72
Diluted EPS:			
Net income allocated to nonvested awards(c)	**$ 1,552**	3,148	3,288
Average common and common equivalent shares outstanding(d)	**911**	1,617	1,925
Diluted EPS(c)/(d)	**$ 1.70**	1.95	1.71

[1] *In accordance with the diluted EPS guidance under the two-class method, the Company uses the approach — either the treasury stock method or the two-class method assuming a participating security is not exercised- that is more dilutive. In 2016, the Company used the two-class method. In 2015 and 2014, the Company used the treasury stock method.*

The diluted EPS calculation excludes stock options and nonvested awards that are exercisable into 0.4 million, 0.6 million and 1.1 million common shares for the years ended December 31, 2016, 2015 and 2014, respectively, because their inclusion would have been anti-dilutive.

Note 26 Subsequent Events

On February 3, 2017, the Company acquired an additional 10% equity interest in CPAY from a privately-owned company for $70.0 million. This purchase reduced the remaining redeemable noncontrolling interest in CPAY to 15% of its total outstanding equity and extended the put call arrangement until April 2018.

Management performed an evaluation of the Company's activity as of the date these audited financial statements were issued, and has concluded that, other than as set forth above, there are no significant events requiring disclosure.

Report of Independent Registered Public Accounting Firm

The Board of Directors
Total System Services, Inc.:

We have audited the accompanying consolidated balance sheets of Total System Services, Inc. and subsidiaries (the Company) as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, cash flows and changes in equity for each of the years in the three-year period ended December 31, 2016. We also have audited the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control — Integrated Framework 2013* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these consolidated 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 consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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.

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

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

The Company acquired TransFirst Holdings Corp. during 2016, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2016, TransFirst Holdings Corp.'s internal control over financial reporting associated with total assets of $2.6 billion and total revenues of $1.3 billion included in the consolidated financial statements of the Company as of and for the year ended December 31, 2016. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of TransFirst Holdings Corp.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Total System Services, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also in our opinion, Total System Services, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

KPMG LLP

Atlanta, Georgia
February 23, 2017

Management's Report on Internal Control Over Financial Reporting

The management of Total System Services, Inc. (the Company) is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company maintains accounting and internal control systems which are intended to provide reasonable assurance that assets are safeguarded against loss from unauthorized use or disposition, transactions are executed in accordance with management's authorization and accounting records are reliable for preparing financial statements in accordance with accounting principles generally accepted in the United States.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, risk.

The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016.

The Company acquired TransFirst Holdings Corp. (TransFirst) during 2016, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2016, TransFirst's internal control over financial reporting associated with 41.0% of total consolidated assets and 30.3% of total consolidated revenues included in the consolidated financial statements of Total System Services, Inc. and subsidiaries as of and for the year ended December 31, 2016.

Based on our assessment, management believes that, as of December 31, 2016, the Company's internal control over financial reporting is effective based on those criteria set forth by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission in *Internal Control — Integrated Framework 2013*.

KPMG LLP, the independent registered public accounting firm who audited the Company's consolidated financial statements, has issued an attestation report on the effectiveness of internal control over financial reporting as of December 31, 2016 that appears on the preceding page.

M. Troy Woods
Chairman & Chief Executive Officer

Paul M. Todd
Senior Executive Vice President &
Chief Financial Officer

Quarterly Financial Data (Unaudited), Stock Price, Dividend Information

TSYS' common stock trades on the New York Stock Exchange (NYSE) under the symbol "TSS." Price and volume information appears under the abbreviation "TotlSysSvc" in NYSE daily stock quotation listings. As of February 17, 2017, there were 18,854 holders of record of TSYS common stock, some of whom are holders in nominee name for the benefit of different shareholders.

The 2016 fourth quarter dividend of $0.10 per share was declared on December 2, 2016, and was paid January 3, 2017, to shareholders of record on December 15, 2016. The 2015 fourth quarter dividend of $0.10 per share was declared on December 2, 2015, and was paid January 4, 2016, to shareholders of record on December 17, 2015. Total dividends declared in 2016 and in 2015 amounted to $73.5 million and $73.7 million, respectively. It is the present intention of the Board of Directors of TSYS to continue to pay cash dividends on its common stock.

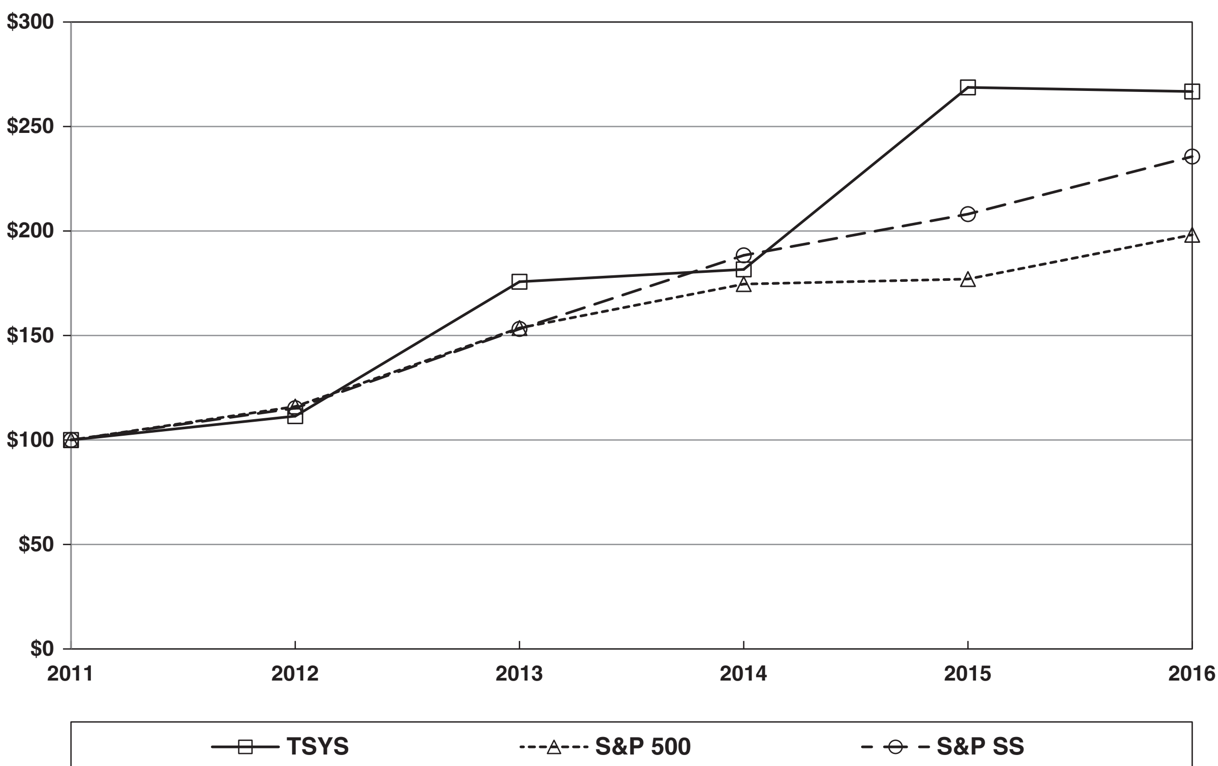
Presented here is a summary of the unaudited quarterly financial data for the years ended December 31, 2016 and 2015.

(in thousands, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2016 Revenues	**$739,378**	**1,151,587**	**1,146,889**	**1,132,224**
Cost of services	**484,507**	**841,923**	**840,301**	**826,331**
Operating income	**151,687**	**135,821**	**155,327**	**130,547**
Net income attributable to TSYS common shareholders	**90,628**	**69,707**	**85,352**	**73,950**
Basic earnings per share (EPS) attributable to TSYS common shareholders	**0.49**	**0.38**	**0.46**	**0.40**
Diluted EPS attributable to TSYS common shareholders	**0.49**	**0.38**	**0.46**	**0.40**
Cash dividends declared	**0.10**	**0.10**	**0.10**	**0.10**
Stock prices:				
High	**48.55**	**54.81**	**56.43**	**51.61**
Low	**37.96**	**47.90**	**46.58**	**46.77**
Close	**47.58**	**48.50**	**47.15**	**49.03**
2015 Revenues	$ 662,156	692,652	707,890	716,843
Cost of services	449,715	459,961	456,465	489,039
Operating income	122,496	130,602	163,104	117,905
Net income attributable to TSYS common shareholders	77,755	82,839	120,622	82,828
Basic EPS attributable to TSYS common shareholders	0.42	0.45	0.66	0.45
Diluted EPS attributable to TSYS common shareholders	0.42	0.45	0.65	0.45
Cash dividends declared	0.10	0.10	0.10	0.10
Stock prices:				
High	39.02	42.72	48.64	56.37
Low	33.27	37.89	41.52	45.82
Close	38.15	41.77	45.43	49.80

STOCK PERFORMANCE GRAPH

The following graph compares the yearly percentage change in cumulative shareholder return on TSYS stock with the cumulative total return of the Standard & Poor's 500 Index and the Standard & Poor's Systems Software Index for the last five fiscal years (assuming a $100 investment on December 31, 2011 and reinvestment of all dividends).

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN
Among TSYS, the S&P 500 Index and the S&P Systems Software Index



	2011	2012	2013	2014	2015	2016
TSYS	$100.00	$111.41	$175.72	$181.62	$268.71	$266.74
S&P 500	$100.00	$116.00	$153.58	$174.60	$177.01	$198.18
S&P SS	$100.00	$115.23	$153.13	$188.36	$208.08	$235.62

Shareholder *Information*

Corporate Headquarters
TSYS
One TSYS Way
P.O. Box 2567
Columbus, GA 31902-2567
www.tsys.com

Stock Trading Information
TSYS common stock is traded as "TSS" on the New York Stock Exchange (NYSE). Price and volume information appear under the abbreviation "TSS" in NYSE daily stock quotation listings.

Dividend Reinvestment and Direct Stock Purchase Plan
The TSYS Dividend Reinvestment and Direct Stock Purchase Plan ("Plan") provides a comprehensive package of services designed to make investing in TSYS stock easy, convenient and more affordable. You may request information about the Plan over the phone at +1.877.833.6707.

New Investors
You can join the Plan by making an initial investment of at least $250.

TSYS Shareholders
You can participate by submitting a completed enrollment form. If your shares are held in a brokerage account, you must first register some or all of your shares in your name.

Dividend Reinvestment
You can invest all or a part of your cash dividends to accumulate more shares without paying fees.

Optional Cash Investments
You can purchase additional shares by investing between $50 at any one time and $250,000 in total per calendar year. If you wish, we can withdraw funds automatically from your bank account each month to purchase shares. Purchases are made weekly, or more often if volume dictates. Fees are lower than those typically charged by the financial services industry.

Safekeeping
You can deposit your certificates with us for safekeeping at no cost to you. You can request a certificate any time at no cost.

Gifts and Transfers of Shares
You can make gifts or transfers to others. Contact American Stock Transfer & Trust Company, LLC at +1.877.833.6707 or your brokerage firm for more information.

Sale of Shares
You can sell some or all of your shares when you choose at fees lower than those typically charged by the financial services industry. Shares are sold weekly, or more often if volume dictates.

Form 10-K
A copy of the company's 2016 Annual Report on Form 10-K, filed with the Securities and Exchange Commission, is available at no charge upon written request to Investor Relations at the address below:

TSYS Investor Relations
One TSYS Way
Columbus, GA 31901
ir@tsys.com

Annual Shareholders' Meeting
The Annual Meeting of Shareholders will be held on April 27, 2017 at 10 a.m. ET at the TSYS Riverfront Campus Auditorium in Columbus, Georgia.

Independent Auditors
KPMG LLP, Atlanta, Georgia

Investor Relations
Analysts, investors and others seeking additional information not available at tsys.com should contact:

Shawn Roberts
TSYS Investor Relations
One TSYS Way
Columbus, GA 31901
+1.706.644.6081
shawnroberts@tsys.com

Current shareholders requiring assistance should contact:

American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn, NY 11219
+1.877.833.6707
www.amstock.com

Online *Access*

Online Services at tsys.com
You can purchase your initial shares online at tsys.com. TSYS makes it easy and convenient to get current information about your shareholder account any time.

You will have access to:

- View account status
- Purchase or sell shares
- View book-entry information
- Request certificate issuance
- Establish or change your PIN
- View payment history for dividends
- Make address changes
- Obtain a duplicate 1099 tax form
- Request a dividend check replacement
- Receive annual meeting materials electronically

Cautionary language regarding forward-looking statements:
This annual report to shareholders contains forward-looking statements, which by their nature involve risks and uncertainties. Please refer to TSYS' Annual Report on Form 10-K filed with the Securities and Exchange Commission for information concerning forward-looking statements, under the caption "Safe Harbor Statement," and for a description of certain factors that may cause actual results to differ from goals referred to in this report or contemplated by such statements.

© 2017 Total System Services, Inc.® All rights reserved worldwide. Total System Services, Inc. and TSYS® are federally registered service marks of Total System Services, Inc. in the United States. Total System Services, Inc. and its affiliates own a number of service marks that are registered in the United States and in other countries. All other products and company names are trademarks of their respective companies.

FSC www.fsc.org
MIX
Paper from responsible sources
FSC® C103068

ABOUT TSYS

TSYS® (NYSE: TSS) unlocks opportunities in payments for payment providers, businesses and consumers. Our headquarters are in Columbus, Georgia, USA, and we operate in more than 80 countries with local offices across the Americas, EMEA and Asia-Pacific.

We provide seamless, secure and innovative solutions across the payments spectrum — from issuer processing and merchant acquiring to prepaid program management — delivered through partnership and expertise. We succeed because we put people, and their needs, at the heart of every decision. It's an approach we call 'People-Centered Payments®.'

Our industry is changing every day — and we're leading the way toward the payments of tomorrow. We routinely post all important information on our website.
For more, visit us at tsys.com.

For the fifth time in six years, TSYS was named one of the 2017 World's Most Ethical Companies by Ethisphere, a global ethics think tank.

NYSE: TSS

TSYS®
One TSYS Way
P.O. Box 2567
Columbus, GA 31902-2567
+1.706.649.2310

www.tsys.com