

Date: April 23, 2024

Operator

Welcome to Visa's Fiscal Second Quarter 2024 Earnings Conference Call. All participant lines are in a listen-only mode until the question-and-answer session. Today's conference is being recorded. If you object, you may disconnect at this time. I would now like to turn the call over to your host Ms. Jennifer Como, Senior Vice President and Global Head of Investor Relations. Ms. Como, you may begin.

Jennifer Como

Thanks, Holly. Good afternoon, everyone, and welcome to Visa's fiscal second quarter 2024 earnings call. Joining us today are Ryan McInerney, Visa's Chief Executive Officer; and Chris Suh, Visa's Chief Financial Officer. This call is being webcast on the Investor Relations section of our website at investor.visa.com. A replay will be archived on our site for 30 days. A slide deck containing financial and statistical highlights has been posted on our IR website. Let me also remind you that this presentation includes forward-looking statements. These statements are not guarantees of future performance and our actual results could differ materially as a result of many factors. Additional information concerning those factors is available in our most recent annual report on Form 10-K and any subsequent reports on Forms 10-Q and 8-K, which you can find on the SEC's website and the Investor Relations section of our website. For non-GAAP financial information disclosed on this call, the related GAAP measures and reconciliation are available in today's earnings release and related materials available on our IR website. And with that, let me turn the call over to Ryan.

Ryan McInerney

Good afternoon, everyone. Thank you for joining us. We delivered strong second quarter results with \$8.8 billion in net revenue up 10%, GAAP EPS up 12% and non-GAAP EPS up 20%. For our key business drivers, we saw relative stability. Overall payments volume grew 8% year-over-year in constant dollars, US payment volume grew 6% year-over-year and international payments volume grew 11%. Cross-border volume excluding Intra-Europe rose 16% year-over-year and process transactions grew 11%. Visa's business performance demonstrates our strategy at work in consumer payments, new flows, and value-added services. Furthermore, across all of these growth levers, tremendous opportunity remains. I'll spend a few moments on each growth lever. Let's start with consumer payments. The opportunity in consumer payments is enormous. Based on the latest public data from calendar year 2022 and our analysis, we estimate that the total global purchase personal consumption expenditure or PPCE excluding Russia and China was approximately \$40 trillion. Within that \$40 trillion, our addressable opportunity is more than \$20 trillion. This includes three components. One, cash and check, which is about half of the addressable opportunity. Tap-to-pay is a great example of how we are converting small ticket cash transactions to Visa credentials. Two, ACH and other electronic transactions. We have many examples in this space, including the work we are doing to extend Visa as a bill pay method in acceptance categories like rent, education and loan repayments. And three, cards that run primarily on domestic networks. We have been focused on converting these domestic based cards to Visa credentials in countries around the world and I'll share a good example from Europe in a moment. There is a very long runway ahead and I remain excited about Visa's future growth opportunity in consumer payments. We continue to capture that growth by delivering innovative and secure payment solutions for buyers and sellers, including new credentials and issuance, tap-to-pay and e-commerce. I'll briefly talk about each. First, we're making great progress in expanding the number of Visa credentials. We have added over 100 million credentials from September to December for a year-over-year growth rate of 6%. One area of focus is in Europe. With the UK growing credentials at its fastest rate since 2016, driven in part by strong growth from fintech clients. In addition, from 2018 to 2023, we converted more than 20 million credentials in Europe that primarily ran on domestic networks to Visa debit credentials with millions more in the process of being migrated. This is a great example of the opportunity I mentioned a moment ago. We're particularly excited as we prepare for the Paris Olympics, which are less than 100 days away. We have close to 300 clients across 85 countries globally working with Visa to activate our Olympic sponsorship for marketing campaigns and cardholder engagements such as credential issuance and onsite cardholder events. And in Europe alone, we expect our clients to have issued over 5 million Olympic and Paralympic branded Visa credentials before the start of the games. Also this quarter in Europe, we renewed our relationship with Caixa Geral de Depositos in Portugal across consumer credit, debit and prepaid and commercial credit and debit as well as a suite of value-added services, including risk solutions and analytics. Another area of strength is our co-brand issuance. Visa is the primary network partner for eight of the top 10 co-brand partnerships in the US today and we are pleased that Visa has finalized a multi-year extension of our successful credit co-branded partnership with Alaska Airlines, a portfolio that benefits from a loyal customer base and high cross-border usage. We have also had significant co-brand momentum in CEMEA. First, we launched a new co-brand card in partnership with Qatar Airways, British Airways and the National Bank of Kuwait. Second, we expanded our strong global Marriott relationship to launch Qatar's first hospitality co-branded card with Qatar Islamic Bank. Across the United Arab Emirates, we now have exclusive agreements with all the leading airlines marked by a recent agreement with Emirates Skywards. And we also signed an inaugural Airline co-brand agreement in Morocco with Royal Air Maroc. Now newer digital issuers are equally important to our future growth in consumer payments. And in Saudi Arabia, fintech stc pay, which has over 12 million customers is transitioning from a digital wallet to a full digital bank and expanding its Visa prepaid business into Visa debit and credit. Digital Bank Maya in the Philippines has chosen Visa to offer its millions of mobile wallet users and bank depositors access to consumer credit cards with new issuance of affluent products. In the US, we signed a newly expanded credit deal with brokerage platform Robinhood, including the launch of a new Robinhood Gold Card, which offers 3% cashback for all purchases. In Europe, broker and savings platform Trade Republic has launched a new Visa card that combines spending and savings for their 4 million customers across 17 markets. Over 1 million people joined the waitlist for the card in just a few weeks. As I've mentioned in the past, we feel great about our products, our value-added services, our new flows capabilities, our brand, and our people, all coming together to deepen and expand our partnerships with our clients around the world. As we think about Visa's growth, tap-to-pay and e-commerce are key drivers in the digitization of payments. This quarter, tap-to-pay grew five percentage points from last year to 79% of face-to-face transactions globally, excluding the US. Of note, Japan nearly doubled its penetration since last year to almost 30%. In the US, in the second quarter, we're nearing 50% penetration with New York City at over 75%. The first US city to reach this milestone up from 50% two years ago, demonstrating the impact that transit and our focused issuance and acceptance have on accelerating growth. On the e-commerce front, we continued to see Visa's US e-commerce payments volume grow several points faster year-over-year than face-to-face spend. And the same is true in many key countries around the world, including Canada, Brazil, Australia and India. And this matters to Visa's growth because in the e-commerce space, cash is not usually an option. And although e-commerce payments are a highly competitive environment, we believe our capabilities and our focus on safety, security, reliability, and user experience position us very well. Adding to the potential for growth is tokenization, which brings several benefits to the ecosystem, especially in e-commerce, including reducing fraud, improving authorization rates and therefore making it easier for a customer to purchase a good or service. As of the second quarter, we have over 9.5 billion tokens globally and have surpassed a milestone of 1 billion tokens in Asia-Pacific joining the ranks of the US and Europe. We continue to be focused across all of these efforts in addition to seeking new areas of acceptance and spending. Now moving to

new flows. We mentioned last quarter that we see \$200 trillion of opportunity excluding Russia and China and we are delivering Visa's commercial and money movement solutions to help digitize these flows. This quarter, new flows revenue growth improved to 14% year-over-year on a constant dollar basis with Visa Direct overall transactions growing 31% for the quarter to \$2.3 billion and commercial volumes up 8% year-over-year in constant dollars. Throughout the quarter, we remain focused on our Visa Direct strategy across several areas of growth, including through new use cases, expansion to new geographies and enablers. One recent example is our expanded agreement with Thunes, which increased the number of countries in which Visa Direct can enable push-to-wallet from 78 to 108. In addition, Thunes is implementing Visa Direct's push-to-card capability to enable payouts made to eligible Visa cards and accounts. We have also expanded earned wage access in Canada through an agreement with Payfare and have brought our first Visa Direct cross-border capability into Taiwan with Taishin Bank. On the enabler front, we are pleased that our long-time partner JPMorgan Payments will be seamlessly integrating Visa Direct into their acquiring operations to offer their business clients faster push payments capabilities. In addition, we continued to deepen our relationship with Chase in the small business market with investment and enhancements in products and services. And in accounts receivable and payable, we renewed and expanded our multi-year agreement with Bill on their accounts payable, spend and expense management platforms. We have also reached a global partnership with Taulia, an SAP company and a leading provider of working capital management solutions. The collaboration will incorporate Visa's digital payments technology into Taulia's virtual cards, a solution that integrates with SAP ERP solutions and business applications to make embedded finance accessible for businesses through a seamless and streamlined payments experience for buyers and suppliers. One vertical in new flows that has immense potential is government payments, representing over \$15 trillion in annual payments volume opportunity, where we are in a strong position to combine many of our new flows offerings. A recent example is in Kenya, where we signed an agreement with Pesaflow, a technology partner for the government of Kenya to expand card payments on eCitizen, the government's electronic platform with over 12 million users. We achieved this by bringing together Visa Virtual credentials and Visa Direct into the platform. Now let me move on to value-added services, where revenue was up 23% in the second quarter in constant dollars. The growth and opportunity in value-added services continue to be significant and broad-based. In Acceptance Solutions, we signed an agreement with Millicom International Cellular in Latin America for cybersource gateway, decision manager and token management solutions. As it relates to open banking, just about two years ago, we acquired Tink as we saw the opportunity in open banking to enable the movement of data and money and to provide consumers with control over their financial data. Over those two years, we have been expanding our presence in Europe, winning deals with such as Adyen and Revolut. We're now expanding open banking solutions through Tink into the United States having signed several data access agreements, including with Capital One, Fiserv, and Jack Henry, so that their customers may share data with Tink. We've also signed partnerships on the fintech and merchant side including Dwolla and Max Rewards. And across our risk offerings, we continue to bolster them through our technology, innovation and AI expertise and are expanding their utility beyond the Visa network. Recently, we announced three such capabilities in our Visa Protect offering. The first is the expansion of our signature solutions Visa Advanced Authorization and Visa Risk Manager for non-VISA card payments making them network agnostic. This allows issuers to simplify their fraud operations into a single fraud detection solution. The second is the release of Visa Protect for account-to-account payments, our first fraud prevention solution built specifically for real-time payments, including P2P digital wallets, account-to-account transactions and Central Bank's instant payment systems. Powered by AI-based fraud detection models, this new service provides a real-time risk score that can be used to identify fraud on account-to-account payments. We've been piloting both of these in a number of countries and our strong results thus far have informed our decision to roll these out globally. The third solution is Visa Deep Authorization. It is a new transaction risk scoring solution tailored specifically to the US market to better manage e-commerce payments powered by a world-class deep learning recurrent neural network model and petabytes of contextual data. We also continue to make our offerings available through third-party platforms. We mentioned ServiceNow last quarter and we are excited to have recently joined the AWS Partner Network to help seamlessly provide our clients running systems in the cloud access to Visa's solutions, initially starting with Currencycloud, now known as Visa Cross-Border Solutions and Pismo. We also signed an agreement with Stripe for them to distribute Verify solutions through a self-service dispute management platform for their merchants. All of these efforts are part of our strategy to build and offer our solutions for both Visa and our network of networks. Before I hand it to Chris, I wanted to note that we have commenced the exchange offer for Visa's Class B1 common stock that is set to expire at the end of next week. I also wanted to highlight that this quarter, after nearly 20 years of litigation, we have agreed to a landmark settlement with US merchants, more than 90% of which are small businesses, lowering credit interchange rates and capping those rates into 2030 once approved by the court. The injunctive relief class settlement also provides updates to several key network rules, giving merchants more choice in how they accept digital payments. Last, let me share a few closing thoughts on the quarter and beyond. First, our second quarter was marked by stable results and strengthened relationships with clients across the globe. Second, as we head into the back half of our fiscal year and beyond, new flows and value-added services remain key areas of focus. We also see significant opportunity in consumer payments by digitizing cash and check, enhancing our capabilities in e-commerce, and building new solutions for our network of networks. I could not be more excited for what lies ahead. Finally, all of this is possible because of the 30,000 Visa employees who come to work every day in service of our clients and partners, I am grateful for everything that you do, thank you. And now over to Chris.

Chris Suh

Thanks, Ryan. Good afternoon, everyone. As Ryan said, Q2 was a strong quarter with relatively stable growth across payments volume, process transactions, and cross-border volume. Looking at our drivers, in constant dollars, global payments volume was up 8% year-over-year and process transactions grew 11% year-over-year. Cross-border volume growth excluding Intra-Europe was up 16% year-over-year in constant dollars. Fiscal second quarter net revenue was up 10% in nominal and constant dollars, which was slightly above our expectations, primarily due to lower-than-expected incentives and better-than-expected value-added services revenue that collectively more than offset lower-than-expected currency volatility. GAAP EPS was up 12% and non-GAAP EPS was up 20% in nominal and 21% in constant dollars. So let's go into the details, starting with total payments volume. Global payments volume growth in Q2 was 8%, consistent with Q1 growth. There are a couple of things I'd like to highlight when comparing Q2 to Q1. First, the extra day for the leap year was a benefit to the quarter. This was offset primarily by slowing payments volume growth in Asia-Pacific mostly due to macroeconomic weakness in Mainland China. When we adjust for Asia and some other smaller factors, we see second quarter global payments volume growth generally in line with the first quarter. Now on to the US. US payments volume grew 6% year-over-year, credit grew 6% and debit grew 6%. Card present spend grew 4% and card not present volume grew 8%. Reg II had a similar modest impact in Q2 as we saw in Q1. When we normalize for leap year, we see relatively stable US payments volume growth. Consumer spend across all segments from low to high spend has remained relatively stable. Our data does not indicate any meaningful behavior change across consumer segments. Moving to international markets, where total payments volume growth was up 11% in constant dollars. Payments volume growth rates were strong for the quarter in most major regions with Latin America, CEMEA, and Europe, ex-UK, each growing more than 19% in constant dollars. Normalized for leap year and weakness in Mainland China, total international payments volume growth was relatively stable to the first quarter. As a reminder, domestic volumes in Mainland China drive a very small amount of revenue and therefore the impact to our financial statements is not significant. Now to cross-border, which I'll speak to in constant dollars and excluding Intra-Europe transactions. Total cross-border volumes were up a healthy 16% in Q2 generally in line with our expectations. Cross-border card not present volume growth, excluding travel and adjusted for cryptocurrency purchases was in the mid-teens, stronger than expected. Cross-border travel volume was up 17% or 152% indexed to 2019. Consistent with our expectations for the year, we continue to see strong travel volume growth in and out of LAC, Europe, and CEMEA and out of the US ranging from 158% to 192% of 2019 levels. The US inbound travel volume has continued to recover within our expectations up several points from Q1 versus 2019 levels. Asia-Pacific travel volume continues to recover, but the pace has been slower than we

anticipated. Travel volume into Asia indexed at 142% of 2019 levels for the quarter, up eight points from Q1, while travel volume out of Asia was up two points to 124% of 2019. We see the primary drivers being one, macroeconomic weakness in key markets like Australia and Mainland China two, weakness in some Asia-Pacific currencies, which is impacting consumer purchasing power, particularly for Japan and three, airline capacity that is still below 2019 levels, particularly the Mainland China and North American corridor. Altogether, we're pleased with our total cross-border volume growth with e-commerce growth generally offsetting the travel weakness in Asia and this is a great testament to the strength and diversification of our model. Now let's review our second quarter financial results starting with the revenue components. Both service revenue and data processing revenue grew generally in line with their underlying drivers, which resulted in their respective revenue yields remaining relatively consistent to the first quarter. Service revenue grew 7% year-over-year versus the 8% growth in Q1 constant dollar payments volume. Data processing revenue grew 12% versus the 11% process transaction growth. International transaction revenue was up 9% versus the 16% increase in constant dollar cross-border volume, excluding Intra-Europe, impacted by lapping strong currency volatility from last year. As volatility reached lows that we haven't seen in about four years, the revenue growth was lower than we expected. Other revenue grew 37%, primarily driven by strong consulting and marketing services revenue growth and to a lesser extent, pricing. Client incentives grew 12%, lower than we expected due to client performance and deal timing. Across our three growth engines, consumer payments growth was driven by relatively stable payments volume, process transactions and cross-border volume. New flows revenue improved as expected to 14% year-over-year growth in constant dollars. Visa Direct transactions improved to 31% year-over-year growth helped by growth in Latin America for interoperability among P2P apps. Commercial volumes rose 8% year-over-year in constant dollars. In Q2, value-added services revenue grew 23% in constant dollars to \$2.1 billion, primarily driven by issuing and acceptance solutions and advisory services. GAAP operating expenses increased 29% driven by increases in the litigation provision and G&A expenses. Non-GAAP operating expenses grew 11% primarily due to increases in G&A and personnel expenses. FX and Pismo each represented an approximately half point headwind. Excluding net losses from our equity investments of \$30 million, non-GAAP non-operating income was \$189 million. Our GAAP tax rate was 15.4% and our non-GAAP tax rate was 16% due to the resolution of some non-US tax matters. GAAP EPS was \$2.29 and non-GAAP EPS was \$2.51, up 20% over last year, inclusive of an almost one point drag from exchange rates and an approximately half point drag from Pismo. In Q2, we bought back approximately 2.7 billion in stock and distributed over 1 billion in dividends to our stockholders. At the end of March, we had 23.6 billion remaining in our buyback authorization. Now, let's move to what we've seen so far in April through the 21st. US payments volume was up 4% with debit up 4% and credit up 5% year-over-year, down from March, primarily due to Easter timing. Process transactions grew 9% year-over-year. Constant dollar cross-border volume, excluding transactions within Europe grew 15% year-over-year. Travel-related cross-border volume, excluding Intra-Europe grew 15% year-over-year in constant dollars or 151% indexed to 2019. And cross-border card not present ex-travel grew 15% in constant dollars. Now on to our expectations. Remember that adjusted basis is defined as non-GAAP results in constant dollars and excluding acquisition impacts. You can review these disclosures in our earnings presentations for more detail. Let's start with the full year. We are reaffirming our prior year guidance for the full year for adjusted net revenue and operating expense growth in the low-double-digits and EPS growth in the low-teens. As for drivers, things are progressing generally as we expected, except for the trends in Asia that we discussed. Accordingly, we are making a small adjustment to our outlook for total payments volume growth to the high-single-digits from the low-double-digits. Total cross-border volume, excluding Intra-Europe is expected to continue to grow strongly in the mid-teens with the strength in e-commerce generally offsetting weakness in Asia travel. Remember that our drivers assume no recession or no further increase in Reg II impacts. Currency volatility remains low and we are assuming volatility in the third quarter continues at a similar rate to the second quarter and adjusts up slightly in the fourth quarter. Now on to the third quarter expectations. We expect adjusted net revenue growth in the low-double-digits, generally in line to the adjusted second quarter growth rate. Adjusted operating expenses in the third quarter are expected to grow in the low-teens, driven primarily by Olympic-related marketing expense due to the strong client engagement that Ryan referenced. Non-operating income is expected to be between \$50 million and \$60 million and the tax rate is expected to be between 19% and 19.5% in Q3 with the full year unchanged. This puts third-quarter adjusted EPS growth in the high end of low-double-digits. For the third quarter, Pismo is expected to have minimal benefit to net revenue growth and an approximately one point headwind to non-GAAP operating expense and an approximately half point drag to non-GAAP EPS growth. FX for the third quarter is expected to have an approximately one point drag to net revenue growth and approximately one and a half point benefit to non-GAAP operating expense growth and an approximately half point drag to non-GAAP EPS growth. In summary, we had another solid quarter in Q2 with relatively stable underlying drivers and strong financial results. We feel good about the momentum in our business as we head into the second half across consumer payments, new flows and value-added services. We remain thoughtful with our spending plans as we continue to balance between short and long-term considerations in the context of a changing environment. So now, Jennifer, let's do some Q&A.

Jennifer Como

Thanks, Chris. And with that, we're ready to take questions, Holly.

Operator

Thank you. [Operator Instructions] Our first caller is Sanjay Sakhrani with KBW. You may go ahead.

Sanjay Sakhrani

Thank you. Chris, a clarification question. You mentioned Easter was mainly affecting the quarter-to-date trends. Is it fair to assume that the growth rate would be commensurate with the last quarter if you adjust it for that? And then just on a related matter, did the tax refund timings have any impact later in the quarter or in the quarter or into the quarter-to-date trends? Thanks.

Chris Suh

Yeah. Thanks for the question. So April volumes, as I said on the call, through the first three weeks were lower than March -- the month of March. This was due to the timing of Easter, which again was in March this year and April of last year. And so once you factor that into March and April growth rates, the change between the months are -- the change in growth rate is not meaningful. As far as tax payments at this point, I don't really have an update. Largely they've been consistent at this point year-to-date.

Jennifer Como

Next question, Holly.

Operator

Our next caller is Timothy Chiodo with UBS. You may go ahead.

Timothy Chiodo

Great. Thank you for taking the question. There were some helpful comments around the e-commerce strength within cross-border offsetting some of the travel weakness. When we think about the components of overall cross-border, clearly, there's the traditional travel, so card present and card not present. And then there's the traditional e-commerce, right, so retail e-commerce. But there are other faster growing but smaller portions, whether it be the remittances or marketplace payouts or you gave the Thunes example earlier. I was wondering if you could maybe size the, in aggregate, how large some of those other maybe faster growing portions of cross-border have become as a part of the overall mix?

Chris Suh

Yeah, sure. Why don't I start? Yeah, we don't have specifics to break-out. As we talked about, the e-commerce business has been strong. It continues to grow above what we expected. The yields across our entire cross-border business are positive and accretive to Visa overall. And so we're happy with all flavors of cross-border, but I don't have a further breakout for you in terms of the pieces that you were asking about.

Jennifer Como

Next question, Holly.

Operator

Our next caller is Craig Maurer with FT Partners. You may go ahead .

Craig Maurer

Yeah, thanks for taking the question. I wanted to ask a question on US debit trends. April continued the trend of weakening that we've seen -- that we saw also in March and basically since February. I wanted to know to what degree your guidance for both third quarter and the year embeds continued weakening in US debit. It seems if we look at the restaurant data released by the likes of Darden that the lower-income portion of the US is significantly reducing spend in certain areas. So curious about commentary there. Thanks.

Chris Suh

Yeah. As we talked about on the call, we see quite stable -- relatively stable volumes in the US across credit and debit, normalizing for the things that I talked about. And so in addition, as I talked about Reg II, the impact remains stable as well. And so from our perspective, our data indicates stable volume growth in the US.

Jennifer Como

Next question, Holly.

Operator

Our next caller is Bryan Bergin with TD Cowen. You may go ahead.

Bryan Bergin

Hi. Good afternoon. Thank you. I wanted to ask on new flows, so a nice recovery there in growth. Can you give a comment on what areas were most pronounced in the underlying growth recovery relative to what you saw last quarter?

Chris Suh

Yeah. Let me talk about Q2 growth. The two pieces of information that we gave you in terms of Q2 growth. We saw commercial volume growth globally 8%, stable to Q1 and in fact, stable over the last several quarters. And we saw very strong growth in Visa direct transactions, growing 31% for the quarter. New flows revenue in total growing 14%, which was in line with our expectations that we shared with you at the start of the year. I think the recovery that you're referencing to was because Q1 growth was lower and that was really due to some lapping issues that were one-time and non-recurring, which we passed at this point.

Jennifer Como

Next question, Holly.

Operator

Our next caller is Will Nance with Goldman Sachs. You may go ahead.

Will Nance

Hey, guys. I appreciate you taking the question. A bit of a dual-part question on just some of the prior guidance commentary you made around first-half versus second-half dynamics and some of the drivers of acceleration over the course of the year. And I guess specifically, I guess, incentives, you talked about a step-down in the growth rate from first half to second half. Is that still your expectation despite that coming in a lot lower in the most recent quarter? And then for the similar question on the volume growth trends, I guess, I hear you on the Asia trends, but I guess overall, you had some kind of upbeat commentary on ticket sizes over the course of the year and kind of easing inflation in comps, it seems like gas prices might help that as well. So just any commentary on ticket sizes and specifically the negative ticket sizes you've seen in the US? Any commentary on kind of what's structural versus kind of more environmental there? Thanks.

Chris Suh

Yeah. Okay. Let me start first with incentives, the first part of your question. So, as you all have seen from quarter-to-quarter, incentive growth can vary based on a number of factors, client performance, deal timing, which is what caused half one to come in lower than anticipated. For our outlook for the second half of the year, our expectations remain largely unchanged. We still expect year-over-year growth to be lower in the second half than in the first half as we lap the higher incentives that we saw starting in the second half of last year. And we do expect the Q4 incentive growth rate will be the lowest growth quarter of the year. So expectations for half two are unchanged. To your second question on ATS, let me -- there's a lot of moving parts in here. And so maybe I'm just going to kind of go through it in detail and unpack bit by bit. Globally, Q2 ATS year-over-year growth was down slightly, which is consistent with the growth that we saw in Q1. Breaking that apart between the US and international. In the US, ticket size growth actually continued to improve from Q1 to Q2, still slightly negative, but the trend improved from Q1 to Q2. And looking ahead in the US, this is something that we've spoken to previously, we do continue to expect ATS will turn positive in the second half of this year as we lap the lower ticket sizes in the second half of last year. Internationally, outside of Asia-Pacific, let's set that aside for a second, we saw improvement in several regions, including the impact from higher inflation in several markets. And so overall, excluding Asia, we still expect ATS to turn positive in the second half based on the expected improvements in the US with the impact of Asia factored in, global ATS will be slightly negative and that was factored into the revised payment volume outlook that I gave for the full year.

Jennifer Como

Next question, Holly.

Operator

Our next caller is Moshe Katri with Wedbush Securities. You may go ahead.

Moshe Katri

Hey, thanks for taking my question. It seems that there was a pretty significant uptick sequentially in growth for value-added services. Is there anything to call out there? Thanks.

Ryan McInerney

I mean, I'll talk about the business just for a minute, Moshe. Thanks for the question and then, Chris, you can add any specific callouts. As I think I said in my prepared remarks, the business is really hitting its strides in a lot of different areas in terms of the product we're bringing to market, the success our sales teams are having around the world, we're really focused on three big areas of trying to drive growth. One is just deepening the penetration of products we have with existing clients. That's -- if you think about it is the most near-term opportunity that we have and we've got metrics, client-by-client all around the world, what are they using, what are they not using. We're arming our sales teams with that. We're building case studies on how we can help them and we're driving progress in terms of deepening the relationship we have with our existing clients. And then we're building new products that we're bringing to market. I mentioned a few of those in my prepared remarks today, both in the risk and fraud space as well as in the open banking space and then driving geographic expansion. I mentioned I think just one cybersource deal in my prepared remarks, but cybersource has been a great example of a platform where we've been having success growing in markets where we hadn't traditionally been as deep. AP is actually a positive example of that in the cybersource space. So those are a couple of call-outs, Moshe, in terms of kind of how we're just seeing the broader business.

Jennifer Como

Next question.

Operator

Our next caller is Cris Kennedy with William Blair. You may go ahead.

Cristopher Kennedy

Good afternoon. Thanks for taking the question. You talked about bringing Tink into the US. Can you talk about the open banking opportunity in the US relative to Europe? Thank you.

Chris Suh

Yeah. Thanks, Chris. I think Europe is the most developed open banking market in the world. We bought Tink two years ago believing that it was the best platform in Europe and I think that's proven true over the couple of years that we've had a chance to own it. On the client side, in Europe, we've been making great progress. I think I mentioned a couple in my prepared remarks, we've been -- we've been winning business and winning share with both fintechs as well as more traditional banks, merchants, and others, both in the payment side of things and in the account information side of things. I would describe the US market as less developed as Europe. And so I think it's an opportunity for us to take the learnings that we've had in the much more developed Europe market as well as the success we've had with our clients, the products, the services, the wins and the losses and bring all of that to the US market. So we're excited to do that. And as I mentioned, I think the US market is still at the very early stages of its development. So I think it's a good time for us to be a competitor in the market. And we're hopeful that over the coming quarters and years, we'll have a chance to share with you a lot of the success that we have in the US market.

Jennifer Como

Next question, please.

Operator

Our next caller is Dan Perlin with RBC Capital Markets. You may go ahead.

Daniel Perlin

Thanks. Ryan, I just wanted to ask a question on the Visa Deep Authorization commentary and kind of that market there. I just want to make sure I understand, are you -- are you doing this as a means with which to like equalize kind of e-commerce across the market for authorization rates, so that like acquirers need to be partnered with you more specifically and therefore, they're not competing maybe shows individually on kind of author rates within e-commerce or is there something different within this platform? Thank you.

Ryan McInerney

Hey, Dan. Let me backup. I think this is a little different than what you were describing. What we found in the US e-commerce market is that it's the most -- on the one hand, it's the most developed e-commerce market on the planet. On the other hand, it's become the place of the most sophisticated fraud and attack vectors that we see anywhere in the world. And so what we were bringing -- we are bringing to market with Visa Deep Authorization is an e-commerce transaction risk scoring platform and capability that is specifically tailored and built for the unique sets of attack vectors that we're seeing in the US. So it's -- as I was mentioning in my prepared remarks, it's built on deep learning technology that's specifically tuned to some of the sequential and contextual view of accounts that we've had in the US market. And the whole goal is what we do with a lot of our fraud and authorization products. We want to -- we want to make it a better buyer and seller experience. We want to reduce fraud rates, increase authorization rates, increase shopping conversion for our merchant partners. And we think Visa Deep Authorization is going to be yet another tool that will help do that.

Jennifer Como

Next question, please.

Operator

Our next caller is Tien-Tsin Huang with JPMorgan. You may go ahead.

Tien-Tsin Huang

Thanks so much. It sounded like the Middle East deal activity is in a good place here. I believe Emirates is a takeaway for you. I'm just curious if there's something new going on there from a pipeline perspective. It sounds like maybe some investing. Is this the growth market we should be paying more attention to maybe? Thanks.

Chris Suh

Thanks, Tien-Tsin. I think what you're seeing is good execution from our sales team, doing what we do when we do it best, which is in with our clients, listening, learning, obsessing about what's important to them and then bringing them products and value propositions that are helping meet their needs and drive their strategies and really just kudos to our team on the ground there and the great work that they're doing.

Jennifer Como

Next question, please.

Operator

Our next caller is Trevor Williams with Jefferies. You may go ahead.

Trevor Williams

Great. Thanks a lot. This one is for Ryan. Just wanted to go back to the merchant settlement in the US, clearly you guys aren't directly impacted by lower interchange, but I'm just curious kind of what you're expecting the downstream impact to be on Visa, the relationships between you and your issuing banks. And if you think it in any way kind of changes the competitive dynamics at all within the US credit market? Thanks.

Ryan McInerney

Thanks, Trevor. I think the good news on this front is it brings clarity and stability to the market. This is litigation that's been out there for the better part of 20 years or so. I think there's been a lot of great work that's been done to bring this to a resolution. Just to remind everyone what the main planks of the resolution are. It really is two different sets of things. One is it will reduce interchange for US -- for credit cards in the US market for both Visa and Mastercard and it will have no increases in interchange for the five years of the agreement. And then the second set of things are tools that give merchants more flexibility to how they manage payments significant -- specifically as it relates to surcharging and things like that. I think, overall, it's what I said, Trevor, which is clarity and stability that lets everybody who operates in the US market move on and move on continuing to grow the digitization of this great payments ecosystem that we've all collectively built in the United States.

Jennifer Como

Next question, please.

Operator

Our next question is from Harshita Rawat with Bernstein. You may go ahead.

Harshita Rawat

Good afternoon. So, Ryan, I want to follow up on value-added services, such an important part of your growth story. I know you've talked about the five types of services you offer and how your top 250 clients use almost 2x the number of services versus the rest of your client base. Can you give us some sense on how these penetration numbers have evolved over time? And finally as you kind of think about pricing for these services, to what extent it's a bundle pricing along with

core versus kind of a separately priced service? Thank you.

Ryan McInerney

Okay. You have a great memory. As we've said, our top 265 clients or so use on average about 22 of our value-added services. We don't talk about like how that's moved quarter-to-quarter, but the opportunity is enormous just when you think about the number of clients we have around the planet. And so as I was mentioning earlier kind of what we've done is we've armed our frontline teams with kind of client-by-client, what are they using, what are they not using, what are the opportunities to create value for the client by putting value-added services A, B, C or D to work for them and we're having great success and you see that in the numbers. In terms of the pricing, it's -- it's different pricing models for different products and different suites of solutions in different places around the world. We're always trying to come up with the right product pricing mix that's going to work best for our products in the market. And we have a portfolio of value-added services that span from issuing to acceptance to risk and identity to advisory into open banking and the competitive sets are deep and different in all of those markets. So we're bringing different pricing approaches to each and every market around the world to help meet the best that we can for our clients.

Jennifer Como

Next question, please.

Operator

Our next caller is Ramsey El-Assal with Barclays. You may go ahead.

Ramsey El-Assal

Hi. Thanks for taking my question. I wanted to ask about one of the consumer payment opportunities that Ryan called out, namely taking share from domestic card networks. How do you drive that? Is it just a question of getting banks to issue more of your cards or is it more on the acceptance or consumer side? What are the levers that you have to basically speed that up?

Chris Suh

Yeah. Thanks for the question. On the -- it's really the first of the things that you mentioned. Now, of course, we need to have great acceptance. We need to have great capabilities and all those types of things, which we do in every market we operate around the planet. So then it becomes sitting down with clients, helping them understand the value of, for example, a Visa debit card versus a card that runs primarily on domestic schemes. And then you get into e-commerce capabilities that Visa Debit is able to provide their clients that maybe they don't get the same type of capabilities from the domestic scheme. You get to cross-border travel opportunities that their customers would have if they were using a Visa card versus one of those domestic schemes that I mentioned. You also get into the risk and fraud prevention capabilities that I mentioned earlier and the ability to have more transactions approved and lower fraud rates, tokenization, I mean, all these kind of benefits, you've heard us talk about over and over again, those are what our teams can sit down with the clients and explain to them. Often the clients will do some pilots and some tests, they'll see the results, they'll see higher spend, they'll see higher client satisfaction. And then ultimately the decision to issue Visa cards to their clients becomes a very clear decision for them.

Jennifer Como

Next question, please.

Operator

Our next caller is Jamie Friedman with Susquehanna. You may go ahead.

James Friedman

Hi. I was wondering if you could share some color on how Prosa is doing so far and how you view the opportunity in Mexico as you start to press and productize into the Mexican market. Thank you.

Ryan McInerney

Yeah. Thanks, Jamie. We view the Mexican opportunity as a very significant one. And coincidentally, I was just down there a couple of weeks ago meeting with clients and meeting with the Prosa team as well. So as I think I explained on one of these calls, today, because we don't process transactions domestically in Mexico, we're not able to deliver a lot of the value-added services that I've mentioned over the course of this call to our clients. And so first and foremost, our clients are very excited about us having the opportunity to have a majority ownership stake in Prosa and then bring these world class capabilities that we've built to the Mexican market, the things I mentioned earlier, tokenization or the risk scoring algorithms that I mentioned or the e-commerce capabilities that I mentioned those types of things. Now Prosa itself is a great asset. It's been operating for 50 years in Mexico has deep processing experience, it has scale. They do more than 10 billion transactions annually. They have a great base of clients. So it's really the combination of both Prosa's experience and deep footprint in the Mexican market combined with our experience, our technology, our track record in bringing a lot of these services to market, the combination of those two things gives us a lot of confidence and our clients a lot of confidence that we can digitize the significant amount of cash and check and electronic payments that exist today in Mexico.

Jennifer Como

Next question, please.

Operator

Our next question is from Andrew Schmidt with Citi. You may go ahead.

Andrew Schmidt

Hey, Ryan. Hey, Chris. Thanks for having me on the call here. I wanted to go back to cross-border for a second. Obviously, a part of the back-half growth is the narrowing of the spread between cross-border revs and volumes. Maybe if you could talk a little about how, whether those assumptions have changed at all with FX volumes coming down or if there's other puts and takes we should consider there? Thanks a lot.

Chris Suh

Yeah, sure. Yeah, I spoke at length about volatility. So we had -- in Q2 we saw volatility -- currency volatility at multiyear lows. This one is hard to predict. In Q3, our assumption, what's embedded in the guidance for Q3 is that the currency volatility levels remain at this low level. We do have, again, embedded in our forecast. We do anticipate that Q4 improves slightly. That's generally in line with market expectations. But, yeah, that is our view of currency volatility. That said, the underlying health of our business as we enter the second half of the year, we feel really good about across consumer payments, across new flows, across value-added services. And so volatility is sort of the variable and we'll have to see how it comes in.

Jennifer Como

Next question, please.

Operator

Our next question comes from Jason Kupferberg with Bank of America. You may go ahead.

Jason Kupferberg

Thank you, guys. Can you talk about your second half expectations for new flows and VAS revenue growth as well as cross-border travel volume growth? Thanks.

Chris Suh

Sure. Let me unpack that a little bit. From a -- as you heard us, we reaffirmed our prior year guide for the full year, adjusted net revenue growth, OpEx, EPS. And within that, I spoke about the fact that volatility is going to cause our currency volatility -- treasury revenues in international to be lower than we anticipated in Q3. But again full year unchanged within that. Our expectations for new flows in that are consistent with the ones that we shared at the beginning of the year, which we anticipated. For the full year, new flows will grow faster than consumer payments with weighted toward faster growth in the second half of the year. We're seeing that with the 14% growth in Q2. We anticipate continuing to see a good growth in the second half of the year. Value-added services has grown over 20% in each of the first two quarters. The momentum there is pretty evident. The second part of your question was, I think, around cross-border travel of volumes in total. So we did make a little bit of adjustment. You heard me talk about based on half-one trends. And so again, this is one with a couple of parts, so let's just go through it in detail. First of all, we feel really good, feel great about our first-half total cross-border performance, 16% growth in Q2, in line with our expectations, and within that, travel was 17% and e-commerce growth mid-teens better than expected. And so that unpacking travel a bit, we've seen most of our travel volume expectations play out actually as we planned at the beginning of the year, which continues to be strong and healthy in most regions LAC, Europe, CEMEA and all the ones that I talked about on the call, with Asia being the exception to that, which again continues to improve with the pace of recovery being slower than expected, offset again by strength in the e-commerce cross-border business, which is performing better than we expected. So we expect these trends to continue into the second half and thus, we've moderated our outlook for travel due to AP and upped our expectations on e-commerce. So putting that all together, overall, our view is that total cross-border volumes remain strong, growing in the mid-teens in the second half, which is frankly the better measure in relation to our financial performance given the strong yields across both travel and e-commerce.

Jennifer Como

Next question, please.

Operator

And our last question comes from Ken Suchoski with Autonomous Research. You may go ahead.

Kenneth Suchoski

Hey, good afternoon. Thanks for taking the question. A lot of my questions have been asked. I just want to ask about the service yields, though, because they came in a little bit lighter than we were expecting. So can you just talk about what drove that? It looks like the service yield declined year-over-year, but maybe there's some offset with client incentives also coming a little bit lower in the quarter. So any detail there would be helpful. Any thoughts on how to think about the year-over-year change in that yield going forward? Thanks.

Chris Suh

As we talked about both service revenue and data processing revenue grew generally in line with the underlying drivers, service revenue at 7% versus the 8% in constant dollar PV, Q1 constant dollar PV that's impacted by a number of smaller things, none of which I would call out as a single thing. Data processing revenue grew a little bit above processed transactions, 1.12 versus 1.11 and that was helped aided a little bit by pricing. From a yield perspective, I think the thing that's important is that our second quarter yields remained consistent with Q1 and consistent with the average over the last several quarters. And so we're seeing very stable yields across the business and we're pleased to see that. And even more broadly, our net revenue yield across the whole company remained quite stable.

Jennifer Como

Great. And last question please, Holly.

Operator

And our last question comes from Paul Golding with Macquarie Capital. You may go ahead.

Paul Golding

Thanks so much. Ryan, you were talking about the addressable opportunity of \$20 trillion of which cash and check was half. I was wondering if you can give any thought to quantifying the ACH versus the domestic network conversion and where you think you are in that opportunity capture for each of those. Thanks.

Ryan McInerney

Yeah, thanks. We're having great success in all three. I gave you examples. Some of our teams are ahead of others in different parts of the world and domestic schemes are more prevalent in some parts of the world than others like I mentioned Europe as an example. But the opportunity is enormous in all three of these areas and we've been having really good success in all three of the areas.

Jennifer Como

And with that, we'd like to thank you for joining us today. If you have additional questions, please feel free to call or email our Investor Relations team. Thanks again and have a great day.

Operator

And this concludes today's conference. Thank you for participating. You may disconnect at this time and have a great rest of your day.