



Commerce Enablement Journal: Issue #1

Software + Financial Services: Laying the Foundations

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Introduction

Embedded or integrated finance, defined loosely as the provisioning of financial services within non-financial platforms and products (often software), is a theme that needs no introduction at this point. A diverse body of literature has exploded, spanning (i) the logic for integrating financial services, (ii) tactics for those looking to do so, and (iii) top-down mappings of value pools for the taking.

As rich as the literature has been, it has tended to wax qualitative, referencing particular businesses here and there to illustrate broader thematic points. Lacking in our view is a running benchmarking of software players offering financial services – toward a conversation on differential outcomes, P&L impact, and strategic positioning. These days, there are several public software businesses embedding financial services, spanning vertical software (Toast, Lightspeed), horizontal commerce (Shopify, Wix) and B2B workflows (Bill, AvidXchange). While just a fraction of the broader private universe, we believe this group is large and diverse enough to draw rough inferences & interesting questions from.

We're therefore benchmarking a universe of 13 software companies at varying stages of offering financial services. All of these companies enable some type of commerce (in-store, online, B2B, etc.) via their software – hence the title of our series: the *Commerce Enablement Journal*.

We aim to study each of our businesses individually while simultaneously aggregating common metrics. Our goal is to better understand (i) **what drives differential outcomes in embedding financial services** and (ii) **why does this matter for business outcomes** – focusing on operations, financials, and strategic positioning.

To flesh out our focus, a few notes on what this series is *not* intended to be:

- We're not exploring all things integrated finance. Our focus is on software-defined products that have integrated financial services (typically starting with payments). Other business models that integrate financial services (think native payments within the Uber app) are out of scope, as are businesses whose primary products *are* financial (even if they also ship excellent software).
- We're refraining from opining on company valuations. This is not in any way a sell-side research report or an investment memo. And our focus is on the narrow topic at hand: we're not opining on relative quality of business models writ large.
- While we focus on downstream implications of offering financial services, many of which manifest in financial KPIs, we aren't suggesting that these resultant KPIs were the *raison d'être* for doing so. In many cases, product considerations drove the initial integration of a financial service, with other implications emerging later on. Don't confuse analysis of impact for how things came to be.

In this issue we define our benchmarking universe and lay out a comprehensive set of metrics (which we'll refresh in future issues as a reference) with commentary. In future issues we'll pull on narrower threads, often restricted to a handful of businesses at a time.

Why do we think this work matters?

- **It highlights a significant diversity of outcomes** embedding financial services. Visualizing the variance helps us identify potential determinants of & blockers to financial services success (or at least helps us avoid naïve analogizing across cases that are in fact very different).
- **It unpacks nuance across payment types and integration models**, which are not created equal. In particular, the economics of embedding payments is highly dependent on a number of factors.
- **It suggests that the contribution of financial services to enterprise values is larger than may be appreciated** by reference to simple top-line multiples. A corollary is that – in markets where competitors can use financial services to meaningfully subsidize core software economics or fuel escalating CAC expenditures – **successful integration (and monetization) of these services becomes a must, in arms-race fashion.**

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Defining Our Universe

Our narrow conception of integrated finance focuses on **application software providers who provision and monetize financial services within their product environments**. Their primary products are not financial; they are applications that govern/automate a set of workflows. These workflows typically enable commerce: selling a shirt online, serving a party of four in the corner table, paying an invoice come due. It is the encompassing of the commerce interaction by these workflows that enables these software providers to provision financial services, typically starting with payments.

By provisioning, we mean that **the financial service is delivered within the provider's product environment, and may be controlled and branded by the provider as well**. The consumer of the software does not need to leave the environment to make a payment or accept a loan offer. This definition centers on the customer experience: if the offering looks and feels integrated to the user, then it is. It doesn't necessarily matter what is happening behind the scenes on the infrastructure side. Toast's full "payfac" and SquareSpace's Stripe integration both meet our definition (though we unpack the differences between what we'll call "embedded" vs. "integrated" further on); a redirect to a third party gateway does not.

Our focus excludes a number of business models that would certainly qualify for a broader definition of embedded finance. We do so to benchmark a coherent group of comparable businesses, not to quibble with semantics. Uber and AirBnB provide non-financial services, leveraging software-defined functionality, into which they embed financial services; but they lack application software business models and would be distracting to analyze here. Flywire differentiates with delightful software but leads with (and mainly monetizes via) its payments offering. Block is a particularly interesting edge case, as components of its Seller offering are clearly application software, but its full business is too unwieldy to benchmark vs. pure-play software comps.

Our group spans a spectrum. We include software businesses who have massively scaled integrated payments and perhaps even moved on to other financial products (Shopify, Toast) as well as businesses just starting on this journey (Olo). We hope to add new companies as financial products enter production (e.g. perhaps Procore soon). Diversity facilitates interesting comparisons and lets us track progress over time.

We cut our benchmarking group across two vectors: (i) whether commerce facilitated is primarily consumer-to-business ("C2B") or business-to-business ("B2B"), and (ii) whether the sectors served are horizontal vs. vertical in nature.¹

- **C2B & Horizontal:** Shopify, BigCommerce, Wix, Squarespace
- **C2B & Vertical:** Toast, EngageSmart, Lightspeed, Mindbody², Blackbaud, Phreesia, Olo
- **B2B & Horizontal:** AvidXchange, Bill.com

While these are a diverse group of businesses, they share the commonalities referenced above. All facilitate some sort of commerce; financial and operating KPIs can be visualized relative to the total gross transaction volume ("GTV") governed by the software. All charge some sort of subscription for their software, even if it is subsidized by financial services monetization. And all incur sales & marketing expense to acquire long-lived customers, which manifests in unit economics. We can compare these businesses instructively, cognizant of their major differences.

To facilitate this analysis, we'll rely on public data, consensus & sell-side projections, and (more than we would like given limited disclosure) our own assumptions. We'll take much of the public disclosure and estimates as a given in service of our narrow, but hopefully relevant, goals (**what drives differential outcomes in embedding financial services, and why do they matter**). And in many cases our assumptions will be directional at best. For this comparative analysis, we are striving for consistency & comprehensiveness over precision.

¹ Throughout the benchmarking, data sources include company disclosures and sell-side estimates, modified by our own assumptions as needed (i.e. where disclosure was lacking, or judgement required).

² We use the latest available historical financials & consensus projections for Mindbody: 2017A, 2018E, 2019E.

Benchmarking

We're devoting much of this issue to introducing our benchmarking: both the philosophy behind how we choose to visualize our group's metrics and what they suggest to us. Think of the following sections as an inaugural voiceover to a benchmarking exercise that we'll maintain over time. In this issue, we devote a few pages to making our philosophy & methodology explicit, while we simultaneously make some observations. In future issues, we'll dive deeper on threads of interest, relegating this benchmarking to an appendix as a living reference point.

Our benchmarking spans two main categories:

- **Business Mix.** Looking to the gross transaction value ("GTV") governed by our software players plus their gross profit mix across subscription, payments, and other financial services economics. What integrated financial services outcomes have been achieved? What explains the variation? What are drivers of "capture rate" and monetization, and what are the implications for gross profit?
- **Financial & Unit Economics.** How do our businesses benchmark across growth & profitability metrics, both on a consolidated basis and isolating the contribution of financial services. To do this properly, we estimate unit economics in order to follow the impact of financial services down the P&L to the true "bottom line", the ultimate driver of fundamental value.

As you read through our business mix analysis, take note of the threads we are hinting at for future issues. We'd love to expound on them all here but are staging in the interest of digestibility. And let us know if there are any observations we *don't* make which merit closer consideration.

On the financial & unit economics benchmarking, feel free to skip past the discourse on unit economics and steady-state margins if you prefer to take our methodology sight-unseen and jump to the punchline. We would have opted for brevity here if we didn't feel it was important to expose our assumptions and align on language before moving on in future issues.

More broadly, the benchmarking that will live on in future appendices is meant to be useful, not academic. If there are metrics that matter to you, comparisons you'd like to see, or simply unanswered questions you find yourselves with at the end of this issue, please don't hesitate to reach out (see our contact info at the end).

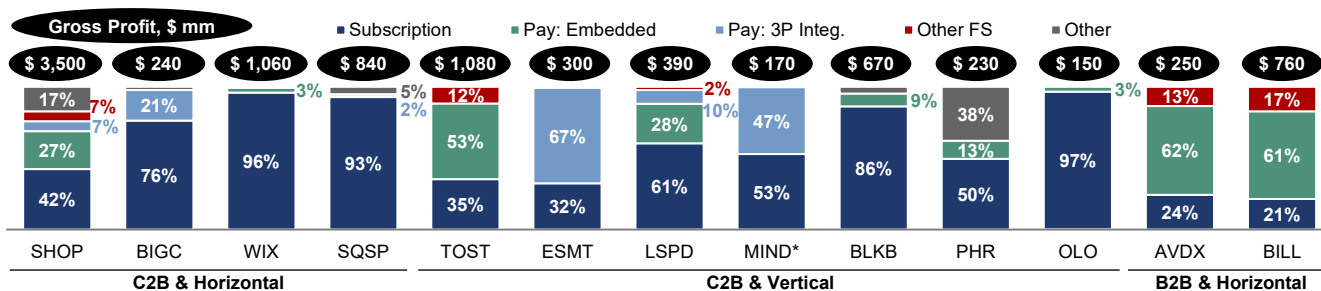
Business Mix

We start by jumping directly into the gross profit composition of our software group. This grounds us in the P&L impact of financial services, from which we'll emerge to discuss the product and operational drivers of the variation we see. Note that we benchmark gross profit (as opposed to revenue) deliberately: this abstracts differences of gross vs. net revenue accounting, providing a relatively consistent view of financial services revenue net of processing and variable support costs.

The chart below looks at 2023E gross profit³ across several buckets:

- **Subscription** economics charged for the core software product.
- **Embedded payments**: economics earned on payments that are fully white-labeled into the software platform's product. E.g. Shopify Payments, Wix Payments, Lightspeed Payments.
- **3P Integrated payments**: economics earned on all other payments. For simplicity, this includes both fully integrated 3P payments (e.g. SQSP & Stripe) and other gateway & customer fees.
- **Other Financial Services**: non-payments financial services products, the largest categories being capital (TOST, LSPD) and float earned on funds held (AVDX, BILL). The latter can be thought of as an extension of payments monetization (ownership of payments is what gives you the float); we opt to split out given its variability with interest rates.
- **Other**: other non-financial products or referral fees, apart from the core software subscription.

Gross Profit³ by Type, '23E



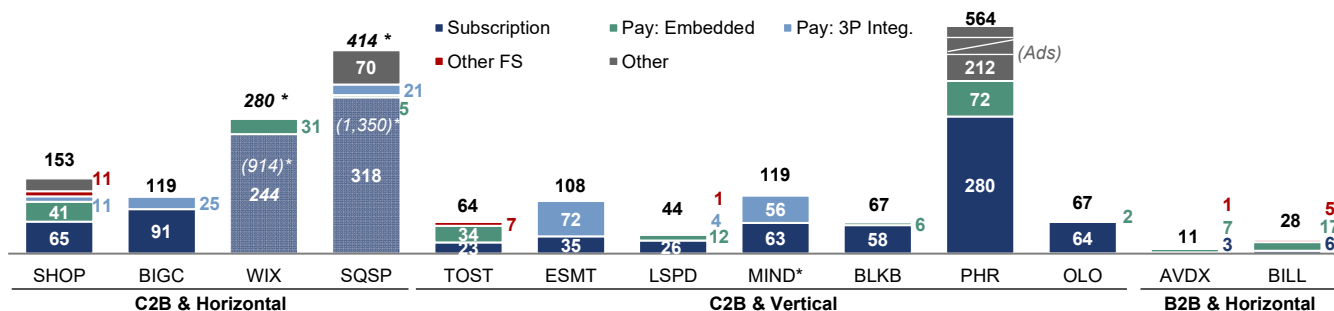
We can already see substantial variety in how financial services contribute to our universe's gross profit, pointing to inherent differences across the nature of end-customers and the core software functionality provided. We'll unpack these differences further on as we look at the degree to which each platform's gross transaction value ("GTV") is captured by embedded or 3P integrated payments. For now, we'd note three rough categories:

- Platforms, both horizontal & vertical, providing holistic practice management for the customer (SHOP, BIGC, TOST, LSPD, PHR). All commerce is de facto mediated through their software, often for SMBs who prefer to consume multiple features in one solution.
- Platforms that lead with a discrete horizontal tool (a CMS, a CRM) that can serve as a beachhead toward a broader commerce suite, but can also be consumed standalone (WIX, SQSP, BLKB).
- B2B players which automate business workflows (e.g. accounts payable) via software, governing massive GTV flows (BILL, AVDX).

On the next page, we express gross profit mix as blended basis points of total GTV. Not to be conflated with actual pricing – most subscription revenue in our universe is assessed on a fixed basis – this view relates how our universe makes money to the commerce they enable. Also note that this view divides gross profit by *all* GTV, including that which is not formally captured or monetized by payments offerings. These basis points therefore reflect both pricing *and* penetration for financial services.

³ We exclude "loss leaders" (e.g. the net loss on Toast's hardware or professional services) from our definition of gross profit, and reflect these costs as part of fully-loaded customer acquisition cost further on in our financial benchmarking.

Gross Profit by Type, Blended bps of Total GTV, '23E



This chart further teases out some of the variation noted above. The holistic practice management firms (SHOP, BIGC, TOST, LSPD, MIND, PHR) command material ARPU relative to GTV by virtue of enabling the core operations of the merchants they serve. The B2B players (AVDX, BILL), in exchange for automating businesses processes, earn a much smaller cut of the massive GTV flows they govern. Finally, note the outsized “take” earned by WIX and SQSP: this is actually a bit deceptive, as they earn substantial subscription revenue⁴ outside of the immediate commerce context.

This view provides a backdrop for what, to us, is one of the powerful dynamics at play when embedding financial services. While the blue (subscription) economics above are paid explicitly by the customer, the economics from integrated payments (green & light blue) and other financial services (red) are generally not. C2B merchants do bear the card discount rate, but they do so regardless of whether they consume integrated payments from their software provider or elsewhere. In the B2B context, virtual card economics (see blue box at end of section) are borne by the customer’s supplier receiving the payment. The same logic applies to products like capital: it is going to cost the customer no matter where they procure it. **While not “free”, the costs of embedded financial services are implicit; by leveraging customer primacy and an integrated value proposition, software providers can step into these economics without moving up the price elasticity curve.**

By starting with gross profit, we’ve admittedly put the cart a touch before the horse. We wanted to lead with the views above because they so clearly illustrate the diversity of our software universe. In the next section, we’ll follow this thread further down into unit economics of our universe. But starting with a focus on financial service monetization runs two risks:

- **It may reverse causality:** monetization is not necessarily the sole, or in some cases even primary, reason for integrating financial services. For example, Toast – which relies more on financial services than any C2B platform in our universe – first embedded payments because onboarding with third-party processors was a massive pain point for its customers. It probably didn’t take long for them to figure out the massive financial tailwind this would provide (if indeed they didn’t see it from the start), but by all historical accounts, this product innovation (not obvious at the time) solved an acute customer pain point first and foremost.
- **It provides a one-dimensional view of our universe:** looking only at the monetization side of the equation, we are tempted into naïve questions (“Why can’t everyone derive half their gross profit from payments?”) that ignore the very different workflows and end-markets served by our group.

So let’s take a step back and evaluate how this variation above came to be.

When we talk about integrating financial services, we are largely talking about payments. Accepting payments (or making them, in the B2B context) is a daily need with attendant pain points for our universe’s customers. There is value in rendering payments “invisible”: that is, seamlessly integrated into the broader workflow or commerce interaction governed by software. And the provision of other financial services (capital, payouts) may not be actionable without payments ownership. **We argue that the most important lever for integrated**

⁴ As shown in parentheses, WIX and SQSP’s full subscription revenue looks outsized relative to the reported GTV in these platforms. Much of this subscription revenue has no direct relation to this GTV (i.e. many customers need and pay for websites regardless of whether they are selling anything governed by WIX). We restrict the bars to show just the “commerce” subscription revenue as classified by management, but even this is likely exaggerated relative to reported GTV.

financial services is what we call the “capture rate”: what percentage of GTV moves through payments modules provisioned by the software platform.

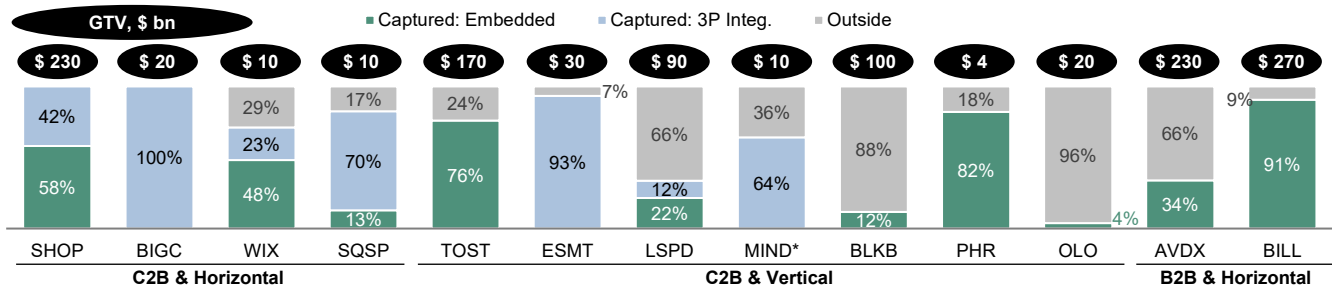
There are two flavors of this capture, shown below relative to total reported GTV⁵:

- **Embedded:** payments facilitated via white-labeled offering, where the software platform retains control over elements including onboarding, pricing, and (to varying degrees) risk management.
- **3P integrated:** payments facilitated via a third party payments provider. In many cases below (e.g. MIND), this provider has been deeply integrated with the software platform. From the perspective of the customer (and end-customer), payments still reside within the software experience, but the third party payments provider retains a direct customer relationship (even if in the T&Cs) and ownership over various operational functions⁶.

By our definition, “embedded” corresponds to where software platforms serve as the merchant of record (also known as the “payment facilitator” or “payfac” model), sitting in the flow of funds and onboarding customers as sub-merchants. Much has been made of this model, and “payfac” quickly graduated from arcane network terminology to buzzword du jour of ’20-’21. But our definition doesn’t cleave to this technical distinction: while some of our embedded providers are registered payfacs (WIX, TOST, LSPD, BLKB, PHR), others (SHOP, SQSP/Tock, MIND) are not. Our definition of embedded centers on the customer experience, not the nuance of who touches funds or holds money transmitter licenses.

Note that we draw the embedded vs. 3P integrated distinction for benchmarking purposes, when in reality both sit on a spectrum of varying customer ownership, risk management, operational responsibilities, and retained economics. All members of our universe build their payments offerings on third party utilities; the question is how much functionality they opt to consume from them vs. internalize themselves. One can run an “embedded” payments program as a fully-licensed money transmitter & registered payfac; alternatively one can do so by retaining a bare minimum of core responsibilities. Great literature⁷ exists on this topic, and we may return to it in the context of our benchmarking universe in future issues.

GTV by Payments Method, ‘23E



Let’s get back to our capture rate benchmarking. Note the disparate outcomes above, especially when the embedded vs. 3P integrated distinction comes into play. What factors drive the variance? We’ll go further down the rabbit hole on specific companies in the future; for now, we’d point to a few broad observations.

Nature: there are clearly structural elements of each business that lend themselves to varying degrees of capture rates. Some of these seem to manifest in the chart above:

- **Customer size.** SMBs favor convergence: that is, they prefer to consume all of their needs in one solution and are often underserved by traditional financial services providers. Enterprise customers, on the other hand, have the capabilities to integrate multiple solutions, and are often served quite well by the traditional

⁵ We’re forced to make some assumptions by the inconsistent reporting of “GTV” and similar metrics by our universe. E.g. not all of the “GTV” reported by WIX and SQSP is captured via payments (e.g. a merchant uses a WIX scheduling tool, but transacts off platform); we must estimate what that non-captured GTV is, inferring from blended payment rates. E.g. TOST only reports processed (i.e. card) volume, whereas LSPD reports all volume inclusive of the cash outside of its payments; we estimate cash for TOST to provide an apples-apples comparison.

⁶ While there are some instances of economics from non-integrated payments (e.g. third party gateway fee, or merchant-borne payment fees) in our group, we opt to bucket everything into our “3P Integrated” bucket for simplicity.

⁷ See, for example: <https://www.bain.com/insights/riding-the-new-wave-of-integrated-payments/>

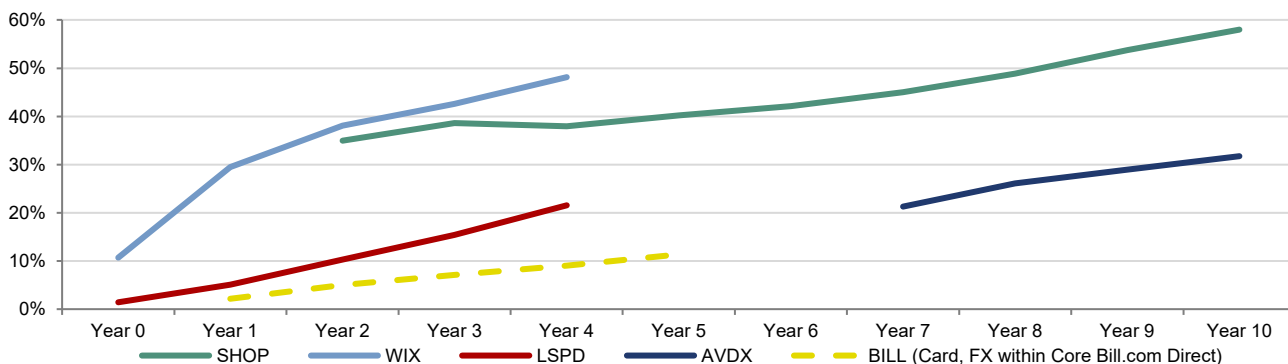
banking sector. Mid-market falls somewhere in between. This plays in favor of SHOP, TOST, and BILL; contrast with BIGC (skew to larger retailers) and AVDX (mid-market).

- **Proximity to commerce.** While all of our businesses govern commerce with their software, they do so with varying degrees of proximity. BILL’s workflow culminates in a payment that it orchestrates; contrast this with Coupa, which didn’t even make our benchmarking given their inability to scale payments off a procurement workflow that was one step removed from the actual payments execution. SHOP is notable for powering every element of a merchant’s online store, whereas WIX and SQSP started life as website builders, gradually expanding into the broader commerce suite. Proximity to the payment breeds the right to facilitate it.
- **Commerce type.** C2B payments, especially in the ecommerce domain, are critical and differentiating because of the massive operating leverage that merchants feel on consumer friction (think of what a 1% conversion rate uplift does to a merchant with a 10% net income margin). In this context, the “better together” logic of integrated payments is felt acutely. Contrast this with a mid-market corporate payable made by check: sure, check is slow and costly, but not broken by any means and certainly not an existential vector of differentiation.

Nurture: that said, demography is not destiny (at least not completely) when it comes to embedding payments. This seems to bear out when we follow certain businesses over time.

- SHOP’s embedded capture rate has increased from 35% in 2015 to ~60% today, even as overall customer mix has moved up-market. This is a function of expanding embedded payments in international markets (pulling to parity with ~90% payments attach rates in North America) and continued feature enhancements.
- WIX launched embedded payments in 2019, benefiting from reported ~80% attach rates among new customers in countries where the offering was available.
- Having historically referred a third of its GTV to third-party processors, LSPD launched embedded payments in 2019 and is now at ~22% capture, with plans to radically scale this up (as of 2Q’23, “unified payments” are now mandated by LSPD for new & existing customers, starting in North America).
- AVDX increased its capture rate from ~20% to ~33% over the last four years, through the well-executed onboarding of payments for new customers and gradual capture of payments among inorganically acquired customers.
- BILL, which embeds payments by default via ACH, has seen success in complementing these low-cost flows with higher-value card and cross-border payments, now at ~10% of GTV.

Embedded GTV Capture Over Time (Year 0 = Calendar Year of Launch)



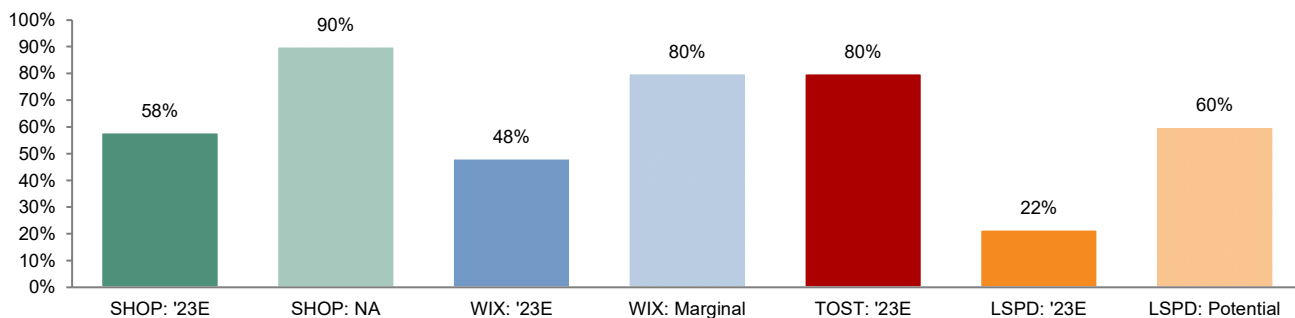
More broadly, we can infer best practices from the higher achievers on our list, even if these businesses also benefit from the structural factors referenced.

- **Nailing the better-together logic of integrated payments.** SHOP integrates payments, cash flow and tax management into the same platform on which merchants are managing inventory, orders and shipping. TOST solved the longstanding problem of the point of sale and processors falling out of sync.

- **Seamless onboarding.** Unsurprisingly, the time it takes to onboard and facilitate payments for an end-customer correlates with success in attaching payments. Surprisingly, Stripe reports significant variability in outcomes across these metrics, implying low-hanging fruit for many software platforms.
- **Sharing implicit economics back with customers.** SHOP cut its entry-level subscription pricing upon the introduction of Shopify Payments in 2013. AVDX shares back a portion of interchange in the form of customer rebates.
- While difficult to assess for our public group, **integration of product and go-to-market** around payments is also important. Do sales reps understand the value proposition of embedded or integrated payments? Are appropriate incentives in place?
- Finally, certain businesses **mandate embedded payments**, either explicitly (TOST software cannot be consumed apart from its embedded payments⁸) or via financial incentives (SHOP assesses fees for 3P payments integrations; LSPD recently adopted the same in North America).

In addition to its importance as (i) a driver of better-together product enhancements and (ii) the gateway to other financial services, **we believe payments capture matters because it is the single largest upside vector for platforms looking to increase the impact of financial services on their P&L.** Even among the platforms who have scaled payments capture successfully, there is meaningful room for improvement – as demonstrated by capture rates in core geographies or for new customers. Only platforms like TOST – which have always mandated payments – are capped on this vector; their upside resides with additional financial services (capital, payroll, insurance) which we’ll cover in a future issue.

Aggregate vs. Marginal/Regional Embedded Capture Rates

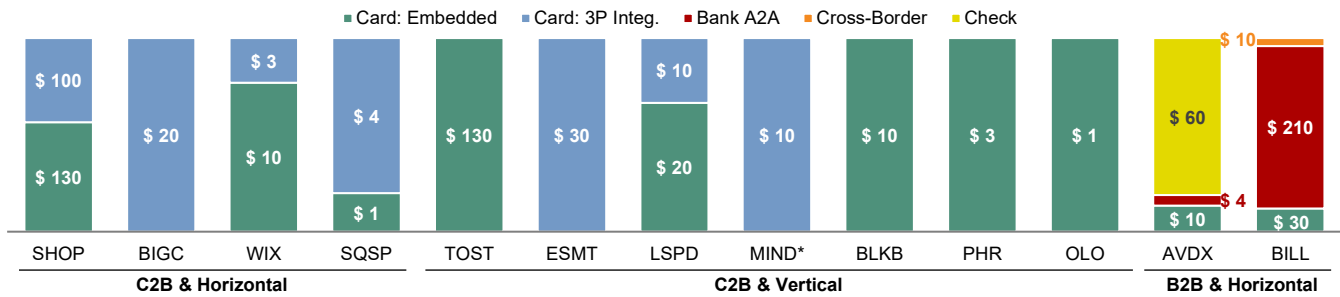


Upside on the other main vector – net economics captured – is inherently more limited. We’ll explore why this is momentarily; lets first orient to how our universe monetizes integrated payments. The charts on the following page break down payments GTV and gross profit by payment type. In the case of our C2B players, card payments reign supreme⁹ (note that our group is U.S.-centric). In B2B, the paradigm is flipped: card is the minority, GTV moves via bank rails (e.g. ACH, wire, check). The reason for this is fairly obvious: card payments’ well-documented value proposition and network effects in C2B do not apply to most B2B commerce, while the ad valorem economics of card are prohibitive for many large dollar transactions. That said, card has been making small inroads into B2B, via invoiced and non-invoiced spend. And given the sheer size of B2B (~2.5x the size of PCE), small inroads add up fast. We’ll come back to *why* in a future issue.

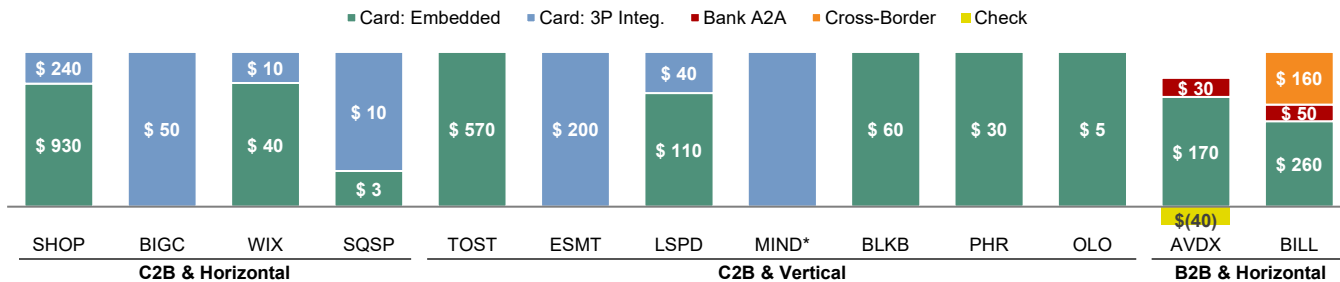
⁸ Notably, TOST decoupled payments from software for the first time in 2Q’23 in order to land an MSA with Marriott. This touches on our earlier point around SMBs vs. enterprises, and hints that TOST’s embedded payments model may become more flexible up-market.

⁹ This is an oversimplification. Much of our C2B universe are facilitating different forms of account-to-account bank payments (including local payment methods, e.g. iDEAL in the Netherlands), mostly outside the US. But as this mix is not disclosed, we opt to ignore it. We don’t view this simplification as distortive when looking gross profit, as we believe the net economics of A2A/LPM payments to our software universe are fairly comparable to card.

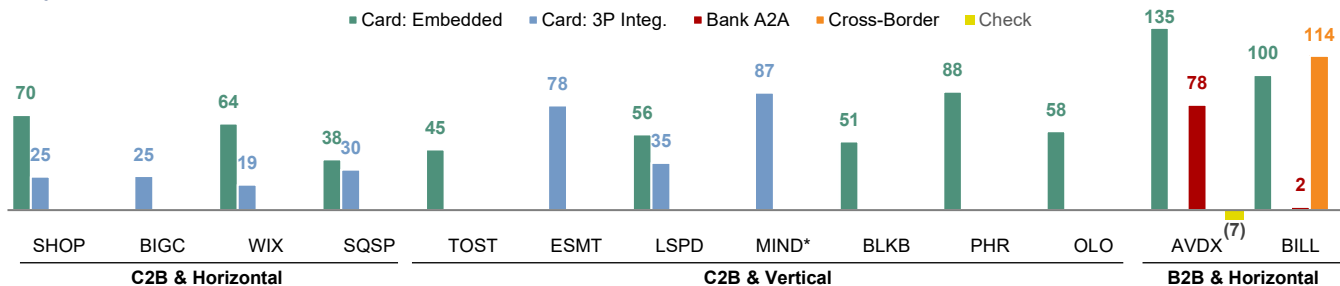
Payments GTV (\$ bn), '23E (Indexed to 100% for Comparability)



Payments Gross Profit (\$ mm), '23E (Indexed to 100% for Comparability)



Payments Gross Profit as bps of GTV, '23E¹⁰



Following the charts above in succession helps us visualize the differential payments economics realized by our universe.

Among C2B players, embedded card economics are relatively consistent at an estimated ~40-70bps of gross profit. 3P integrated is more varied: in some instances, we estimate ~20-30bps of gross profit economics (BIGC, SQSP), whereas players with scale & deeply integrated payments (ESMT, MIND) seem to do as well as ~80+bps¹⁰. This variance expresses the diversity of payments economics realized across sectors (with associated market pricing & risk dynamics), scale, the and functions taken on vs. outsourced. On the last point, by taking more on software platforms can generally earn more of the payment economics. However, undertaking these functions also requires varying degrees of product, engineering, ops and risk personnel, the costs of which sit below gross profit in opex. The scale of these costs vary with the riskiness/diversity of end-customers served as well as exactly which functions are undertaken in-house. We estimate ~\$0.5-\$3.0+mm in annual opex where the software business opts to leverage third-party platforms for some to all of its embedded needs, and more in dynamics where it opts to fully insource most functions ex-core payment processing.

In this sense, the gross profit economics we show between embedded and 3P integrated are not fully apples-apples. The “real” difference between the two will largely be a function of scale (how much GTV can you amortize the fixed opex across) and degree of owning vs. renting functions.

It’s also worth noting the differences in economics realized *between* the various C2B embedded programs. We believe these to be mostly driven by GTV scale and payments mix. Scale drives operating leverage on cost of sales (which we estimate as customer support & fraud software costs) and, to a lesser extent, on payment

¹⁰ Note that there is substantial guesswork in estimating the true gross profit economics of integrated payments. While in many cases our companies disclose either gross or net revenue economics, virtually none provide detailed disclosure around variable costs. We’ve had to make varying degrees of assumptions to infer the economics above, especially as pertains to pulling apart economics by payment type.

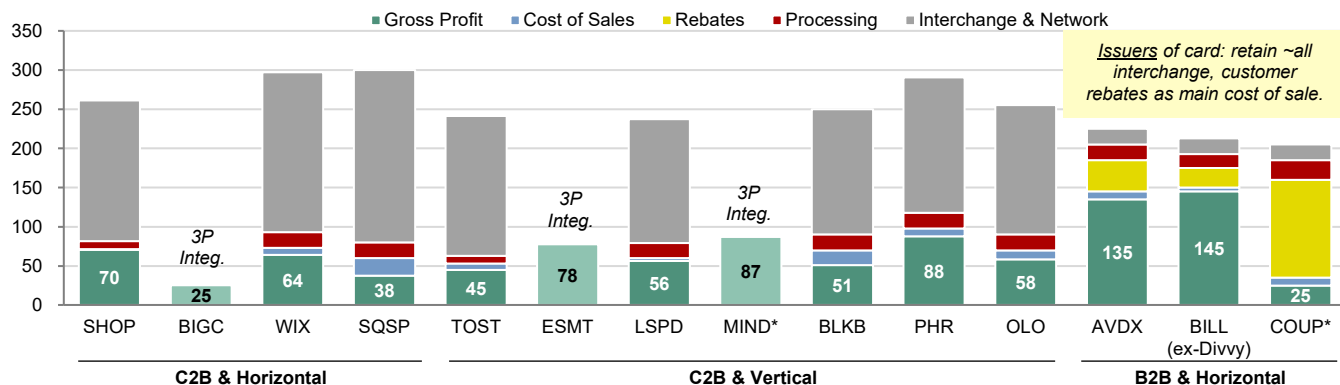
processing costs. Card not present payments (SHOP, WIX) also earn higher net economics than card present (TOST, LSPD) – though with higher fraud & chargeback risk.

Finally, note the B2B platforms (see blue box further below). Unlike our C2B platforms, they are on the payor side of the transaction. As such, they get to participate in interchange, the “main event” as far as card economics are concerned. The economics of card interchange (as well cross-border) are outsized relative to what these platforms earn on more regular way transactions. As a result, they contribute an outsized portion of gross profit on relatively modest GTV. AVDX has gone as far as to leverage check processing as a cost center toward enabling card conversion.

Below, we frame card economics in the context of the total merchant discount rate – i.e. the difference between what a payer pays and merchant receives. This view is the basis for our earlier contention that – relative to the capture rate – there is less upside to be had on economics. The reason for this is shown in grey below: the vast majority of the merchant discount rates accrues to card issuers in the form of interchange. Interchange itself varies across transactions – most notably card-present vs. not-present and credit vs. debit; in the U.S. it tends to run at ~80-250bps for an e.g. \$40 transaction (we lump network fees, a much smaller expense, into interchange for simplicity). Outside of more radical changes to regulation or rails, interchange is a constant from the standpoint of our universe.

Where, then, can incremental economics come from? Cost of sales (support & fraud software) and processing economics (paid away to the enabling payments platform, e.g. Stripe). None of our universe disclose these costs explicitly; we understand them to be lumped into reported gross profit. To illustrate, we estimate each based on a crude rule of thumb, extrapolating from channel checks. Effectively, we assume that all-in processing costs range from ~10 to ~20bps for our universe, decreasing linearly with scale. We assume that non-processing cost of sales asymptote toward ~1bp at ~\$100bn of GTV, with a \$1-2mm hard floor depending on nature of the embedded payment model. These are very crude guesses, but in the broader context of our analysis it wouldn't matter much if we were off by ~50%. The point stands that interchange is effectively fixed and operating leverage on other variable costs is available but modest.

ILLUSTRATIVE Card Payment Economics (bps of GTV)¹¹



Concluding our discussion of payments capture rates and economics, we look at where our group might conceivably evolve their payments offerings over time.

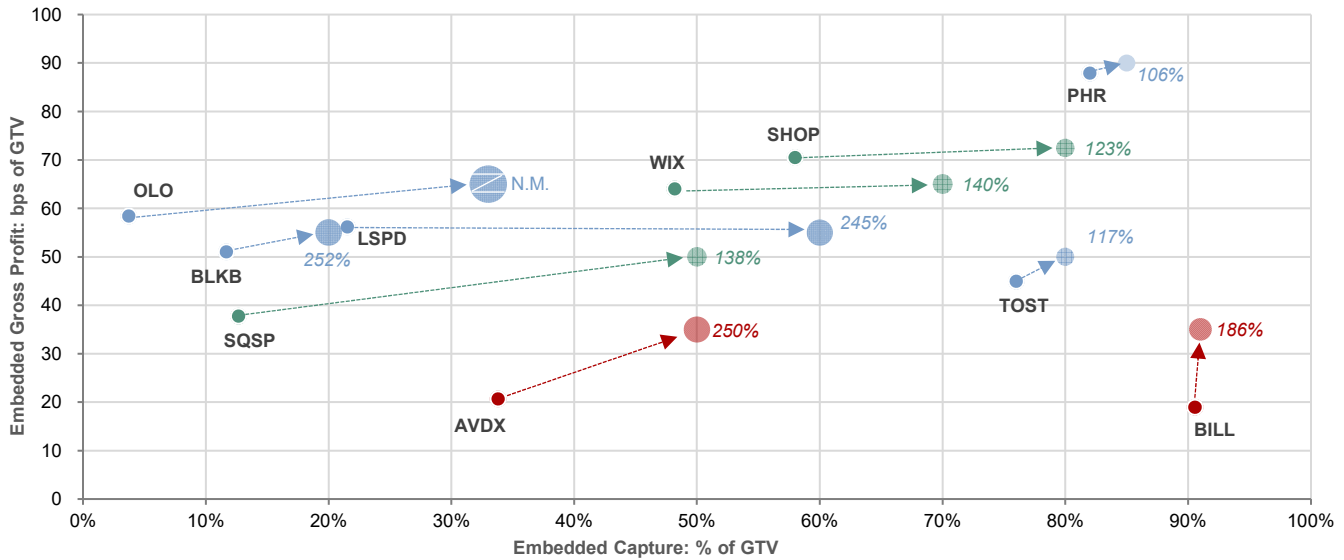
In the chart below, we plot each of our companies as a bubble along two axes: embedded payments capture rate (x) and embedded payments gross profit as bps of GTV (y). Each bubble represents 2023E, and has a corresponding “potential” bubble representing what each company’s embedded payments might attain. The bubbles are indexed to magnitude of gross profit, with percentages noting the potential vs. actual differential (actual = 100%). We infer capture potential from the marginal attach rate data points above, and incremental economics from a simple extrapolation of cost of sales / processing operating leverage with more scale.

To call this illustrative is an understatement, but it at least suggests how much juice may be left in the squeeze of embedded payments for our universe. Note that we could have replicated this chart for members of our

¹¹ We include Coupa in this diagram as a special guest to illustrate how B2B interchange economics can degrade when you need to heavily incentivize end-customers via rebates to drive payments attach.

group with 3P integrated payments models, but opted for brevity given most members embed payments to varying degrees.

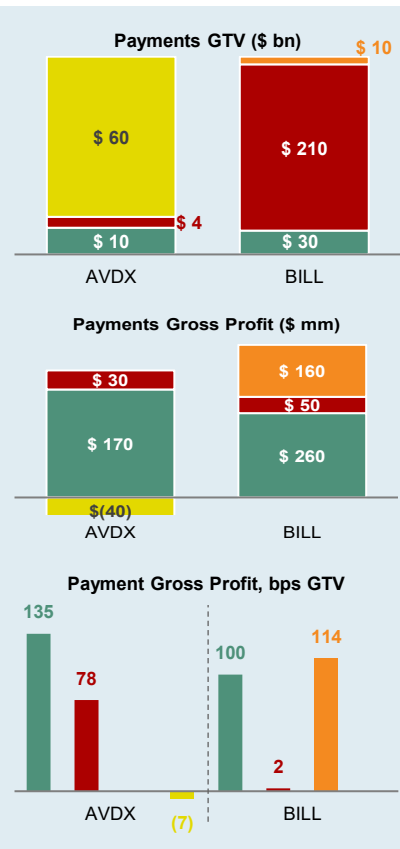
Card Payment Economics (bps): Bubble Size = Size of Payments Gross Profit, 100% Status Quo



While we estimate some economics improvement opportunity for most of the group, the majority of the upside lies in capture. The one exception to this are the B2B players, where recycling ACH/check payments into higher-value card/FX represents an opportunity to increase economics. The increasing bubble sizes (status quo = bold; potential = shaded with % indexed vs. 100% status quo alongside) may not look dramatic, but recall that any incremental gross profit is amplified by operating leverage in terms of its impact to the bottom line. We'll cover this dynamic in the next portion of our benchmarking.

B2B. An attentive reader will at this point have noted that our B2B companies are not quite like the others in terms of economics and payment rails. Their differences warrant further unpacking in a future issue. For now, we'd make a few summary observations:

- Unlike our C2B providers, which generally enable a combination of payment acceptance and end-to-end practice management, our B2B providers automate a single cost center: procurement & payables. This reflects clearly their lower blended economics vs. GTV.
- Card is much less prevalent in B2B payments for reasons already discussed. This is reflected in the low card penetration rates (17% for AVDX, 10% for BILL) of embedded GTV.
- But don't let the GTV composition suggest that card doesn't matter. On the contrary, we estimate that card economics make up ~67% of AVDX's and ~35% of Bill's gross profit. This is because the interchange economics of card – borne by the supplier, not the payer/customer – are so outsized relative to the economics of check/ACH. The same applies to cross-border payments in the case of BILL. A little penetration of these methods goes a long way.
- Finally, it is notable how different AVDX and BILL stack up vis one another. Have their approaches and products varied over time? Is mid-market (AVDX) really so different from SMB (BILL)? The short answer is "yes" – we'll dive in deeper in the future.



Financials & Unit Economics

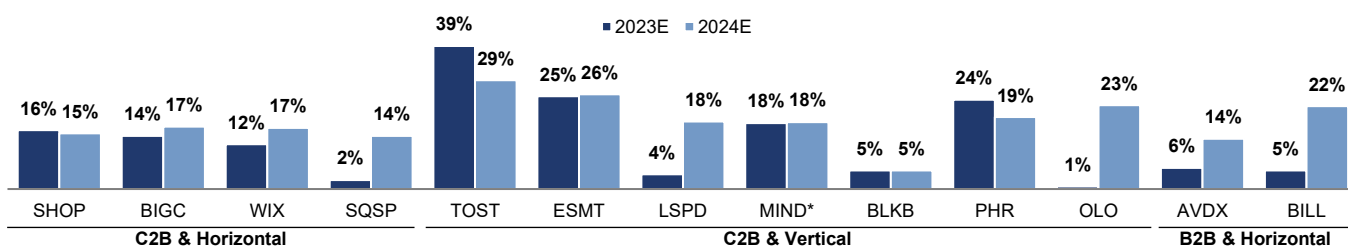
Picking up from the gross profit composition in the prior section, how do the impact of payments (embedded & integrated) and other financial services manifest in the full P&L of our group? In this section, we'll start by orienting to the basic financial profiles of our businesses (topline growth, profitability), which are important but well-covered elsewhere. We then get into unit economics and steady-state profitability, where (in our view) the fundamental rubber meets the road.

As GTV and net revenue growth below illustrate, most of our universe still sits at some point in its secular growth phase. This shouldn't be surprising for software digitizing commerce-related workflows. That said, many of these businesses have been scaling for 10+ years, and are approaching the point in their lifecycle where markets are more discerning of every differential point of compounding.

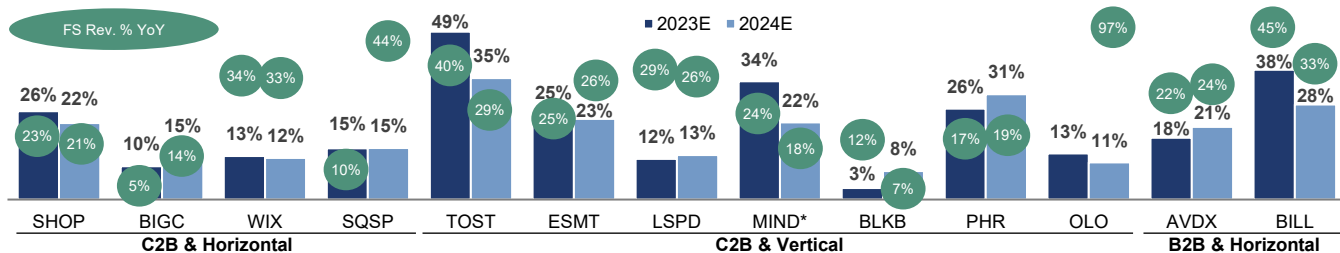
Financial services can play an important role driving incremental revenue growth in the face of inevitably decelerating customer growth. For starters, most payments (excluding non-card B2B) are priced ad valorem, allowing software platform revenue to keep pace with end-customer GMV growth, even if fixed or per-seat subscription pricing trails. Incremental financial services penetration can also drive up blended ARPU in a frictionless manner, as already covered above.

This is visible when we overlay financial services revenue growth (green circles below) on top of overall net revenue growth. Where penetration is ticking up (WIX, LSPD, OLO, BILL) these are a material boost to overall organic growth.

Total GTV % YoY:



Net Revenue % YoY, Organic:

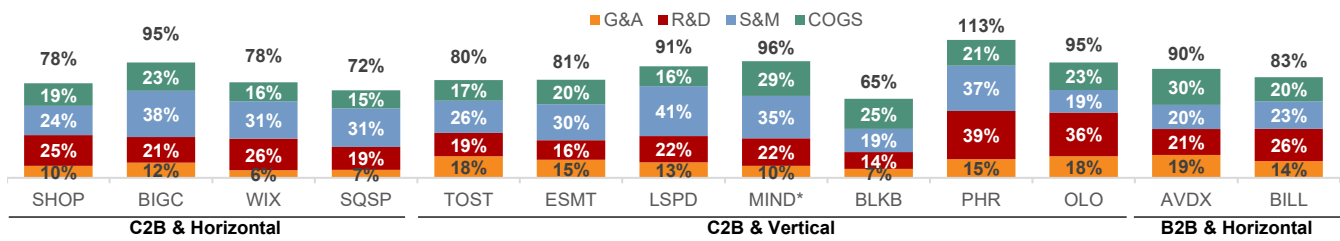


We'll breeze past consolidated cost structure as it has less to tell us directly about our universe. We subscribe to the belief that all businesses are worth their discounted free cash flows, for which we leverage EBITDA as an imperfect but helpful proxy^{12,13}. As shown below, most of our universe operates at subscale adjusted EBITDA margins and varying GAAP EBITDA losses (the difference being share-based comp). As software analysts have long articulated, lagging profitability is often a function of upfront sales & marketing spend to acquire long-lived customers, as well as continued product investment. While consolidated metrics (e.g. "rule-of-40") are helpful heuristics, we need to go to the unit economics before we can answer the question of how financial services impact our universe's bottom line.

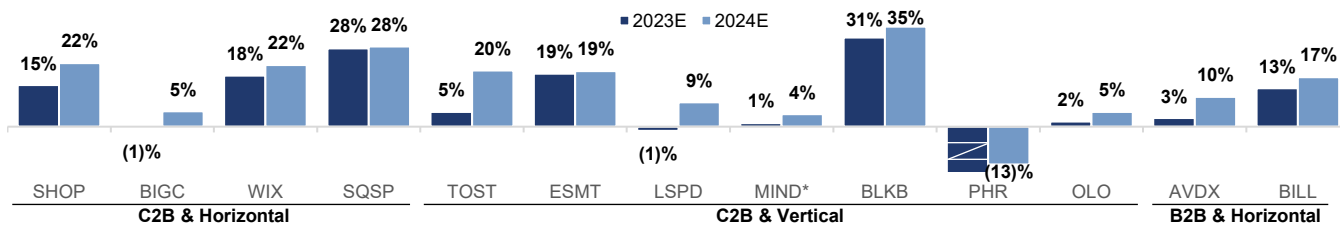
¹² Respecting that EBITDA and free cash flow diverge significantly in many respects, our preference for EBITDA derives from its usefulness as a comparative benchmark. By abstracting capital structure, tax regime, and non-recurring items, EBITDA allows us to easily compare two business models. Our universe is also fairly consistent in lack of capital intensity. We note where we show adjusted costs & EBITDA (i.e. unburdened for share-based compensation) vs. what we term "GAAP" costs & EBITDA (burdened for share-based compensation). We use the latter when expressing unit economics and steady-state margins.

¹³ Note that all EBITDA margins reflect our view of *net* revenue (not GAAP), which excludes structural payments costs (i.e. our net revenue is lower vs. GAAP reported in some cases, hence our % EBITDA margin shows higher on a smaller denominator).

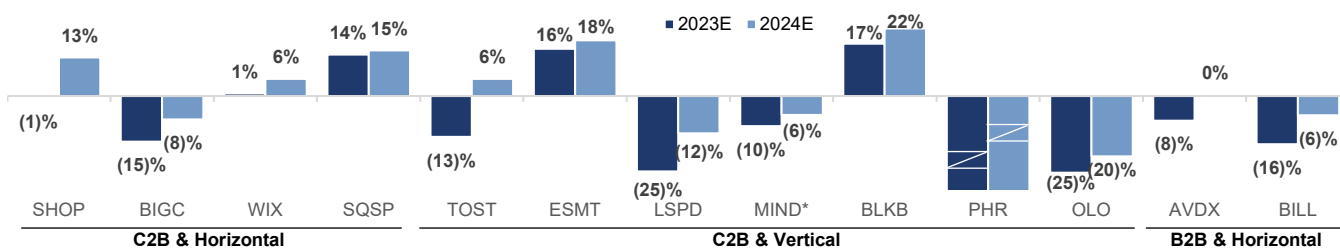
Adjusted (excl. SBC) Costs, % of Net Revenue (2024E):



Adjusted (excl. SBC) EBITDA, % of Net Revenue (2023E & 2024E):



“GAAP” (incl. SBC) EBITDA, % of Net Revenue (2023E & 2024E):



Turning from the consolidated metrics, we’ll proceed to estimate the inherent, or steady-state, profitability of our software universe. “Unit economics” can mean different things in different domains. Within the world of software, COGS (hosting, customer success) and sales & marketing tend to be mostly variable; with R&D and G&A at least semi-fixed. Software analysts treat “unit economics” as the as the gross profit return per unit of sales & marketing spend (return on customer acquisition). Holding R&D and G&A constant, it is this relationship that dictates near- and long-term profitability.

The corpus of software unit economics discourse rivals Talmudic commentary in its breadth (and, at times, dryness). We won’t be recreating the wheel for purposes of this analysis. But before defining metrics, it’s important to emphasize why we are benchmarking unit economics in the first place: **we can’t estimate the impact of financial services on value without a view of unit economics**. Why? Consider the following hypothetical.

Flatline Inc. provides point of sale software to 100 widget stores in Flatlandia. Flatline’s customers are content to pay a \$100k/year subscription for its software, which fully automates the purchasing process; a dollar more, and some would start to churn for the next best alternative. Flatline’s software also integrates payment processing, facilitating a ubiquitous payment method that, for historical reasons, has converged on a 2.5% market-standard discount borne by the merchant. Flatline keeps 50bps of this discount net of processing costs. Flatline’s customers are content with this pricing: it is consistent with what they would get elsewhere, and they prefer payments to be fully integrated with their point of sale software. Each customer does \$10mm a year in GTV. Flatline’s 50bps on payments are pure gross margin; its overall business runs at a 25% EBITDA margin.

Ignoring the myriad questions raised by this shoddy hypothetical, answer the following question: how much would Flatline’s enterprise value decline if we forcibly removed its integrated payments offering?

Trafficking in revenue multiples as we often do in software, we might be tempted to answer “the enterprise value would decline by one third, commensurate with payments’ \$5mm revenue contribution to \$15mm of overall revenue”. This would be akin to failing those trick questions meant to bypass the slower-thinking part of

the brain. The answer is – most likely – that Flatline is worth nothing without its embedded payments business; in fact, its shareholders might pay you something to take it off their hands.

The reason for this, as our example was crudely constructed to illustrate, is that there was significant *operating leverage* on Flatline’s payments revenue. Running at 100% margin, it drops straight to the bottom-line, of which it represents 133% (\$5mm / \$3.75mm). In a world where it cannot alter pricing or cost structure, Flatline simply doesn’t have a viable business without its payments offering; the subscription fee borne by the market does not support its cost structure.

This is an extreme example that doesn’t map to any of our real world businesses. But it illustrates a point: **to estimate the value of financial services to our universe, we need to know how revenue streams hit the bottom line** (even if we have to take a number of educated guesses to do so). **And to do this, we have to know what the “look-through” bottom lines of our businesses actually are.**

Our view of unit economics distills into three metrics, which we illustrate with an example from Shopify:

Payback months:

$(LTM\ S\&M / LTM\ Gross\ Profit\ Added) \times 12$

Roughly how many months does it take for the gross profit of a new customer to pay back the S&M incurred to acquire them. The longer the payback, the more new customers will drag on near-term profitability.

| <i>SHOP; \$ mm</i> | 2023E | 2024E |
|-------------------------|-----------------|-----------------|
| S&M (GAAP) | \$ 1,200 | \$ 1,320 |
| Subscription | \$ 500 | \$ 520 |
| Payments: Embedded | 330 | 420 |
| Payments: 3P Integrated | 50 | 60 |
| Other Fin Services | 100 | 130 |
| Other | 260 | 280 |
| New Gross Profit | \$ 1,240 | \$ 1,410 |
| Months Payback | 12 | 11 |

Lifetime value (LTV) to customer acquisition cost (CAC):

$(LTM\ Gross\ Profit\ Added / Gross\ Dollar\ Churn) / LTM\ S\&M$

How the lifetime value of a new customer (defined as cumulative gross profit) compares to the S&M incurred to acquire it.

We don’t discount lifetime value, much of which resides in future years, by any cost of capital – as many analysts do. We prefer to leave out a variable (cost of capital) that may differ between businesses. The reader can look at the nominal LTV/CAC multiples with her own discount rate back-of-mind.

We show LTV/CAC on an uncapped and 5-year basis.

| <i>SHOP; \$ mm</i> | 2023E | 2024E |
|------------------------------|-----------------|-----------------|
| S&M (GAAP) | \$ 1,200 | \$ 1,320 |
| New Gross Profit | \$ 1,240 | \$ 1,410 |
| Gross \$ Churn (Est.) | 16.0% | 16.0% |
| LTV (Uncapped) | \$ 7,750 | \$ 8,813 |
| LTV (5yr) | 6,200 | 7,050 |
| LTV / CAC (Uncapped) | 6.4 x | 6.7 x |
| LTV / CAC (5yr) | 5.2 x | 5.3 x |

Steady-state EBITDA Margin:

Theoretical EBITDA margin inferred from no growth, at scale:

- % COGS: *unchanged from TTM actuals.*
- % S&M: *S&M to replace gross profit churn.*
- % R&D: *“at scale” margin assumed; reflects op. leverage*
- % G&A: *“at scale” margin assumed; reflects op. leverage*

Holding the payback metrics constant, how much S&M would it take to simply replace gross churn each year, for flat growth? Layering in assumptions around fixed costs at scale, this view expresses the implied EBITDA margin the business is pulling to. While replete with assumptions, this view helps us translate current unit economics to a “look through” bottom-line.

| <i>SHOP; \$ mm</i> | 2023E | 2024E |
|------------------------------------|------------|------------|
| Gross Margin (Actual) | 81% | 81% |
| S&M Margin (Steady) | 13% | 12% |
| Contribution (Steady) | 69% | 69% |
| R&D Margin (Steady) | 25% | 25% |
| G&A Margin (Steady) | 10% | 10% |
| EBITDA (Steady) | 34% | 34% |
| <i>Memo: S&M Steady Calc:</i> | | |
| TTM Gross Profit | \$ 3,500 | \$ 4,280 |
| Gross \$ Churn (Est.) | 16% | 16% |
| Gross to Replace | \$ 560 | \$ 685 |
| Months Payback | 12 | 11 |
| S&M to Replace | \$ 543 | \$ 643 |
| % Margin | 13% | 12% |
| <i>Note: Actual S&M Margin</i> | <i>28%</i> | <i>25%</i> |

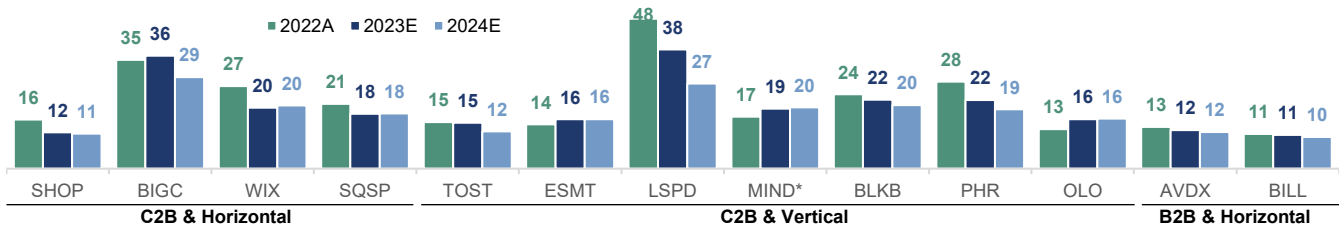
When dealing with public companies, we need to make a number of assumptions to estimate comparative unit economics. With respect to key inputs, our methodology is as follows:

- Sales & marketing: TTM GAAP expense (burdened for stock-based comp) in period.
 - Loss on hardware / services removed from gross profit and included in S&M as effective CAC.

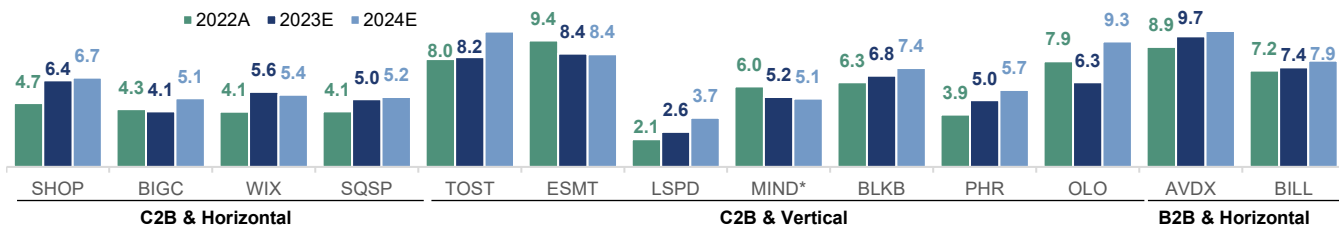
- New gross profit: implied from annualizing current Q4 vs. prior Q4 gross profit (i.e. net new), plus the gross profit replacing % of prior Q4 stock assumed to have churned (implies gross new).
- Gross dollar churn: estimated, triangulating from disclosures like logo churn, sell-side estimates.
- Steady-state R&D and G&A: estimated, triangulating from historical operating leverage & broader software benchmarking.

Our benchmarking is inherently imperfect, as a number of factors can exaggerate/depress the attractiveness of unit economics in a given period – for example, same-store GTV expansion in a given period will exaggerate new gross profit; a reversion will understate new gross profit. And same-store GTV trends do cycle in sectors such as ecommerce or hospitality. For this reason in part, we focus on 2023E & 2024E, which usually assume a normalized environment ex ante. **Again, we aren't trying to provide a canonical view of unit economics; we just want a consistent baseline to measure the impact of financial services against.**

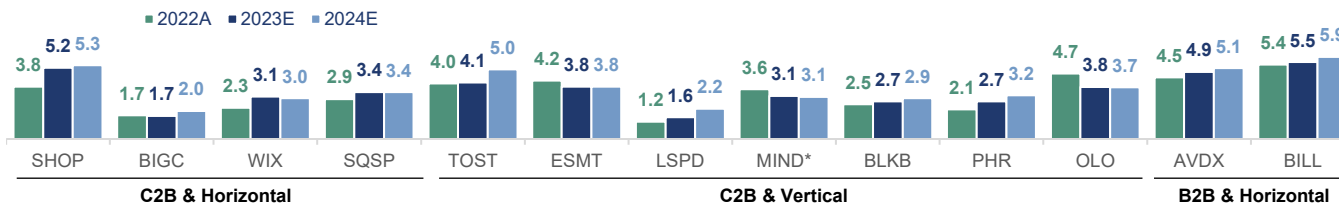
Months Payback



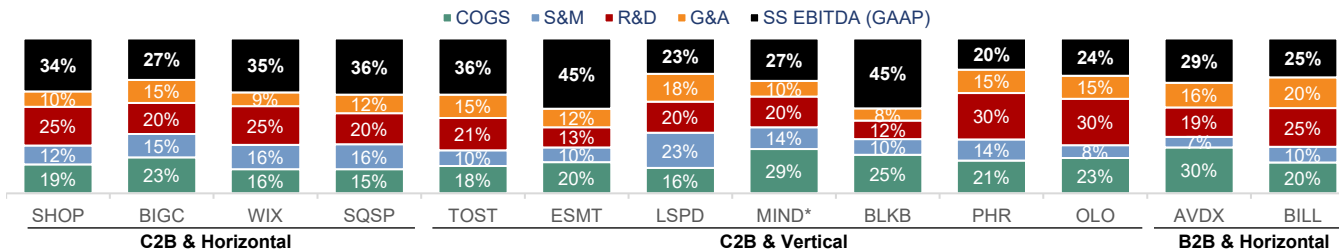
LTV / CAC (Uncapped)



LTV / CAC (5yr Cap)



Steady-State EBITDA %, % of Net Revenue (2024E):



What, theoretically, would these unit economics look like without financial services? Conversely, what would they look like at the full “potential” financial services capture we estimated in the prior section (at least as concerns payments; we’ll go deeper on capital & other products in future issues).

The are impossible questions to answer with certainty. For starters, we don't know the full P&L contribution of financial services: our companies disclose net revenue and, in some cases, gross profit for these products. We don't know the portion of sales & marketing dollars that are devoted to cross-selling the financial services suite.

We don't know how much product or G&A spend is devoted to the support and maintenance of these products. We can only make educated guesses.

Perhaps more important, the world (unlike Flatlandia) is complex; counterfactuals that exclude integrated financial services from our universe while holding "all else equal" can oversimplify to the point of distorting. A few examples come to mind:

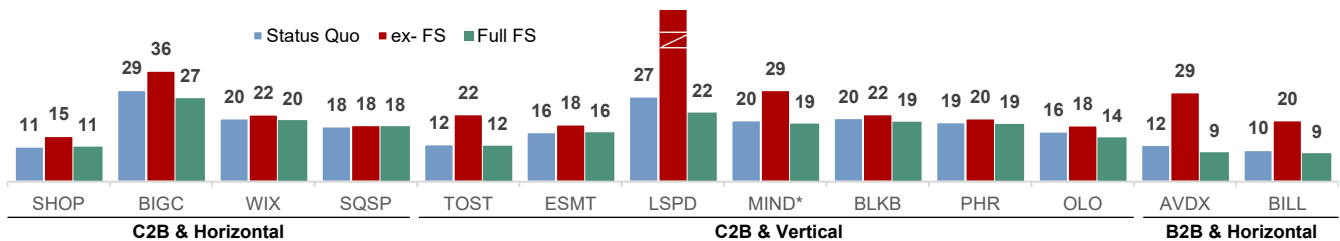
- In a counterfactual world where a software platform does not integrate/embed payments, capital, etc., bandwidth may have been deployed toward other monetizable products.
- Or perhaps subscription pricing could simply be increased; not all markets are perfectly elastic.
- It may not be appropriate to simply toggle financial services gross profit while holding overall scale constant. In world without financial services, the software provider would likely have ended up a smaller but more profitable business than our simple math would imply – by raising prices away from the marginal elastic customer and/or not spending the marginal dollar of CAC.
- It's a bit unfair to look at one company ex-financial services without imagining a world in which none of its competitors integrate them either. These trends can cluster in arms race fashion – for example in the restaurant POS space over the last five years, where TOST, LSPD and others took embedded payments (and now capital) from nice-to-have to table stakes. With this growing ARPU, these players were able to "bid" to higher marginal CAC. It could be punitive to remove their embedded payments revenue without imagining the lower CAC environment that might correlate.

Acknowledging the limitations above, we see fit to proceed with the following view of unit economics ex-financial services:

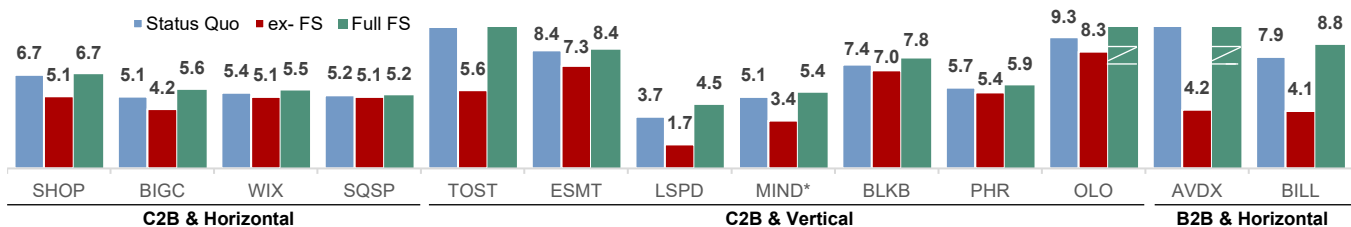
- Remove gross profit from embedded payments, integrated payments¹⁴ & other financial services.
- Remove the estimated portion of S&M, R&D and G&A that supports financial services. This requires an estimated guess, as this cost granularity is not disclosed by any public company.

For unit economics with full potential payments ("Full FS" below), we simply reverse this methodology, guided by the capture and monetization assumptions from the prior section's bubble chart.

Months Payback, '24E

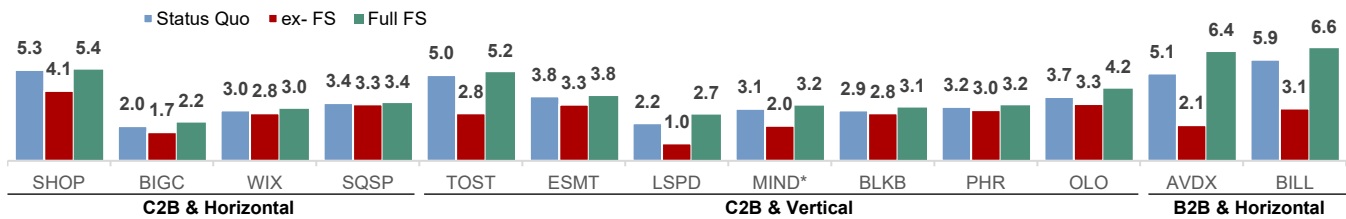


LTV / CAC (Uncapped), '24E

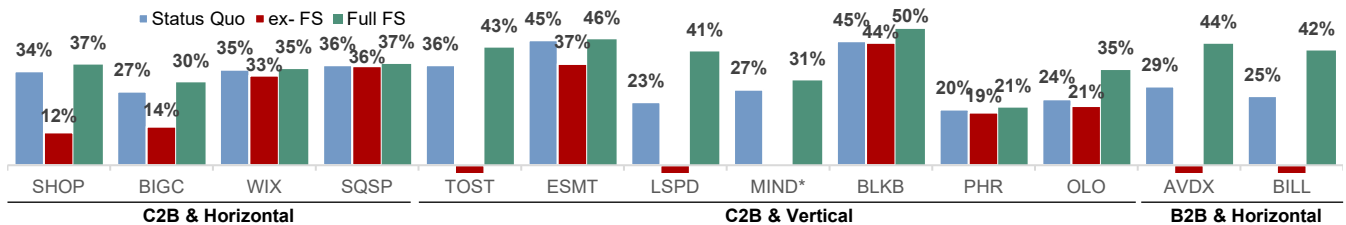


¹⁴ We make a few exceptions to this logic. SHOP: we leave the fee borne by non Shopify Payments merchants, the logic being that this merchant-borne fee could still be assessed in a world without integrated payments (e.g. these merchants have shown their inelasticity to this fee). ESMT: we leave the enterprise payments business intact, as this is a pure play payments business (no software fees). BILL: because BILL facilitates payments for all customers by default, we leave its ACH/float revenues intact and remove higher-value payments (e.g. card).

LTV / CAC (5yr Cap), '24E



Steady-State EBITDA Margin, '24E



Financial Services: as a % of Net Revenue, Gross Profit, Steady-State EBITDA, '24E

| | C2B & Horizontal | | | | C2B & Vertical | | | | | B2B & Horizontal | | | |
|-------------------|------------------|------|-----|------|----------------|------|------|-------|------|------------------|-----|------|------|
| | SHOP | BIGC | WIX | SQSP | TOST | ESMT | LSPD | MIND' | BLKB | PHR | OLO | AVDX | BILL |
| % of Net Revenue | 35% | 16% | 4% | 2% | 61% | 57% | 34% | 36% | 9% | 11% | 3% | 70% | 70% |
| % of Gross Profit | 40% | 21% | 5% | 2% | 63% | 68% | 43% | 45% | 9% | 12% | 6% | 76% | 84% |
| % of SS EBITDA | 65% | 48% | 6% | 1% | 161% | 19% | 217% | 102% | 1% | 6% | 11% | 314% | 290% |

Subject to the caveats above, there are a few tentative takeaways from the benchmarking above. We believe it most instructive to focus on the steady-state margin comparison at bottom, which provides an estimate as to what financial services mean to the bottom line of each business. Not surprisingly, business models that have doubled down on payments & financial services the most (TOST, LSPD, MIND, AVDX, BILL) see these profit streams account for most to all of steady-state EBITDA. Other business models (WIX, SQSP) count financial services as a nice-to-have kicker. Others fall somewhere in between.

If anything, the most interesting takeaway from our financial benchmarking seems to be evidence for a potential Red Queen dynamic at play. It is notable that most of the companies who have successfully integrated financial services end up deriving most to all of their theoretical bottom-line from them. This points to a certain logic: **if your business can meaningfully embed financial services, then perhaps it must.** The alternative is watch your competitors leverage their growing financial services economics toward subsidizing (or outright relinquishing) their core subscription economics in the name of TAM expansion. Or toward outspending you to higher marginal CACs, which your subscription economics alone can't sustain. We believe this dynamic has already played out in certain sectors and may do so again in others. We'll unpack this further in future issues.

Conclusion

As we conclude our inaugural Software + Financial Services issue, what do we hope to have achieved?

For starters, we hope that a consistent benchmarking of the relevant public software companies allows us to ask questions and theorize while grounded in a normalized view of the facts – even if this normalization requires some assumptions along the way. By keeping this benchmarking up to date, we plan to track the progress of these businesses and update our inferences as we go.

The diversity of our group was evident from the start as we dug into business mix. These businesses have seen radically different outcomes integrating/embedding financial services – whether measured by impact to their P&L or via KPIs like capture rates and blended monetization. This should ground us in the realization that “embedded payments” is not a uniform lever to be pulled by any given business. Customer size, proximity of the software to commerce workflows and payment/commerce type all shape the opportunity in front any would-be financial services integrator.

Yet elements of “nurture” do emerge as we study the more successful members of our group on this measure. Product integration, seamless onboarding, sharing of economics and go-to-market education/integration all seem to play a role in driving successful outcomes.

What success looks like can be pulled apart across capture (how much of total GTV flows through embedded or integrated payments) and monetization (the net economics realized on payments flows), complemented by non-payment financial services (capital, payroll, issuing) which we will pay close attention to over the coming years. Capture is straightforward to understand (if difficult to execute well) and represents the main upside vector across most of our group. Monetization is highly nuanced across payment type, geography and degree of internalizing vs. partnering for payments, and offers some, but less, upside going forward.

And importantly, monetization sources (card economics, FX fees) are in many cases implicit. The customer often had to bear these costs anyway, within the typical payments discount/pricing available to them in the market. Financial services can therefore be a low-friction means of capturing value.

What success means to our group from a P&L standpoint varies from (i) a kicker to an otherwise sound subscription software business to (ii) a more existential profit pool that begins to underpin most of the business’s steady-state profit. By grounding our analysis in unit economics / steady-state EBITDA we are able to estimate the “true” financial impact of financial services to our group – with a healthy dose of assumptions around operating leverage. While rough, the resulting view is nonetheless effective at highlighting the degree to which financial service profit streams contribute to the bottom-line. And, for much of our group, this implied contribution may surprise analysts who have only been following the top-line contribution of these products.

What does it mean for a software business when financial services economics contribute the majority (or entirety) of its steady-state profitability? It may mean that the business has leveraged this incremental profit pool to subsidize subscription economics, acquire incremental customers at previously prohibitive CACs, or accelerate the product roadmap. This both expands the potential market and creates a paradigm where any competitor without comparable profit pools is at a material disadvantage. Said differently: if integrated financial services represents an opportunity for a given software business, it also represents a threat; in a competitive system, what can be executed on, must.

In future issues, we’re looking forward to pulling on some of the narrower threads alluded to at various points above. These will likely take the shape of more targeted essays with our updated benchmarking appended as a reference. If you have any suggestions (or critiques) for future essays, please get in touch. We’d love to hear from you as we evolve this body of work forward.

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