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Who Pays For Instant Payments?

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Executive Summary

Pricing regimes for instant payments are both complex and evolving; more recent instant payment schemes (IPSs) are more likely to have mandated **both** free-to-consumer payments **and** participation by categories of payment service providers (PSPs).

Free-to-consumer is not a new approach in payments; there are important precedents in the form of cash and credit cards and, more generally, digital freemium services. However, each of those instruments has a different revenue model and a trajectory of usage, which carry some insights for pricing instant payments as the newest category of payment instrument.

PSPs bear the bulk of the cost burden of free-to-consumer instant payments. In emerging market environments with free pricing mandates, the implication for greater inclusion and usage will depend largely on whether sufficient disruptive entrants have the financial and technical capacity to absorb acquisition costs in the hope of future monetization through cross-sell. Without this factor, and without other external subsidies, IPSs are unlikely to further financial inclusion much, even if they result in already included customers transacting more.

The pricing of instant payments is a strategic, dynamic choice that will have substantial effects on the pace, depth, and distribution of benefits from digitization. It cannot be copied from choices made elsewhere because it is context specific; nor can it be made once for all, because digital ecosystems evolve, nor can it be left to linger in uncertainty, since it usually affects investment decisions by a range of private PSPs. Rather, pricing of IPSs would benefit now from the greater attention that was accorded to the cost of cash and cards in the not-too-distant past in terms of the publication and analysis of more data about costs and usage.

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1 The New Kids on the Payments Block?

In 2025, the Bank for International Settlements (BIS) reported that there were more than 120 live instant payment schemes (IPSs) around the world (Aurazo et al., 2025). This number was double the count of only four years earlier referenced in a CPMI publication, which also dated the first IPS to 2001 in Korea (CPMI, 2021). Among this growing throng, two schemes stand out for their rapid adoption: UPI in India, launched in 2016, and PIX in Brazil, launched four years later.[1] These two giants of instant payments also share a common approach to pricing; both schemes mandate free transactions at least for individuals. Their successful adoption has created a powerful demonstration effect for newer schemes to follow. Is the global norm now free instant payments?

To answer that question requires more nuance right from the start. In reality, the pricing regimes of these two schemes are both more complicated and more divergent than the simple summary above implies. PIX in fact charges a small fee (0.22 percent) to merchants that receive payments, but not to individuals, whereas UPI charges fees only on larger merchant payments (above INR2000/USD $21) and only from prepaid wallets, not from bank accounts. However, since 2020, UPI has waived merchant fees on all other merchant payments. Instead, the Indian government pays UPI participants an annual subsidy currently equivalent to 0.15 percent of the value of payments.[2]

Of the two, the policy towards UPI pricing in India has been subject to the most prolonged controversy. According to the industry body for non-bank PSPs, the current subsidy accounts for only a fraction of the costs they bear (Economic Times, 2024). Rumbling industry discontent over the reduced subsidy in the 2025 budget fueled rumors that the Ministry of Finance would re-allow fees on merchant payments. However, in June 2025, the Ministry scotched these rumors, affirming its position that no fees should be charged on small transactions (Economic Times, 2025b). Then, in August 2025, the Governor of the Reserve Bank of India re-stoked the controversy by remarking pointedly that "someone had to bear the costs of operating UPI" (Economic Times, 2025a). Of course, "someone" already does — namely, the participating banks and especially the third-party application providers (TPAPs) that acquire customers and process most UPI transactions. Meanwhile, wiggling around the margins of the no-fee mandate, certain large private Indian banks have recently introduced fees for payment aggregators to process UPI transactions on behalf of their clients.[3]

This complex pricing issue goes to the heart of the sustainability of digital public infrastructure (DPI) in general, of which instant payment schemes constitute one of the main accepted categories. So far, the pricing for usage of other categories of DPI has been less controversial, probably because many, like state-issued digital identities, have been free to use, or because with open data or finance schemes, there is a shortage of standardized comparisons. However, the norm of free-to-use, too, is starting to change in these other categories; JP Morgan Chase was one of the first major banks in the U.S. to announce in July 2025 that it will start to charge data aggregators for access to client account information, citing the rising pressure on its IT infrastructure (Mazza, 2025).

In this context of rising controversy, this brief addresses two key questions: First, the descriptive question posed above about **who currently pays for instant payments.** This is to set the wider scene for IPS beyond just the two schemes mentioned above. Then, with that context, it is possible to discuss the second question, the normative one of **who should pay for instant payments** and what the implications of different approaches may be.

1. To give a sense of the sheer size of these giant new schemes, PIX and UPI processed 84 billion and 180 billion transactions, respectively, in 2024; by contrast, the UK's Faster Payments Scheme, which was one of the earliest cohort to start back in 2007, processed just over 5 billion payments in 2024. Even on a per capita basis adjusting for population size, the UK's usage of instant payments in 2024 was well below both India and Brazil.
2. A subsidy that was budgeted to cost USD $179 million in 2024 (PIB Delhi, 2025). Fees of 1.1 percent are charged to merchants on UPI transactions larger than INR2000/USD $22 made from prepaid payment instruments/wallets.
3. ICICI Bank will charge two paise per INR100 processed, up to INR6 (The Times of India, 2025).

2 Who Pays for Instant Payments at Present?

The major IPS examples — PIX and UPI — highlighted so far suggested a trend towards mandated free-to-consumer payments. Beside pricing, the Central Bank of Brazil also explicitly requires defined categories of larger financial institutions to join PIX, while its Indian counterpart has a "soft" mandate effectively requiring licensed banks to participate in UPI. This raises an additional question about whether mandated participation is also an IPS trend. These two candidate trends, mandated pricing and participation, are separate but related in that, in the absence of a mandate to participate, a financial service provider could escape the burden of a pricing mandate by simply not participating. However, as even the shorthand description above of these three IPS "cousins" has already shown, the actual picture is a lot more complex; at least some merchants do pay in some circumstances for PIX and UPI, and the free-to-consumer window in Colombia is not indefinite but has been set as three years for now. Additionally, participation mandates are often not universal but often apply to categories of financial institutions, such as, in the case of PIX, credit institutions only above a certain deposit size.

To assess the trends in these two key characteristics in IPS schemes more broadly, we compiled a database of 26 major IPS schemes worldwide based on two main criteria:

- Located in a G20 country, almost all of which had live instant payment schemes before 2016 (making up 16 of the selected sample of schemes);[4] or
- If outside of a G20 nation, either the IPS is large and established (such as Nigeria and Singapore) or else launched within the past 10 years (which adds another eight countries).

A full list of the schemes in the sample is provided in the Annex.

The trends over time in this sample can be seen by comparing characteristics of the subset of the most recent schemes with an older cohort. Since even the oldest is barely 25 years old, any year in the past 10-year period could be selected as the cutoff between old and new. However, since the most recent era of IPS has been so strongly shaped by the story of UPI, we chose the year of its launch — 2016 — as the cutoff year. UPI and 20 other schemes launched in 2016 or afterward, with the remaining five schemes in the sample launched pre-2016 (see Table 1).

TABLE 1: COMPARING KEY FEATURES OF TWO GENERATIONS OF IPS

	Pre 2016 IPS schemes (n=5)	Post 2016 IPS schemes (n=21)
1. Pricing 1a. End user pricing is mandated (either by regulator or scheme)	40%	52%
1b. The pricing mandate includes free-to-consumer payments	0%	33%
1c. Free-to-consumer payments are widely available at least on a tier of small transactions	60%	62%
2. Participation: Mandated at least for large entities or for an entire category of FSPs	60%	71%
3. Ownership: The scheme is publicly owned	20%	62%

Note: % is the proportion of each column category to which the criteria applies. See Annex for the scheme names and countries in each cohort.

4. We included the EU scheme SEPA Instant instead of national schemes for the three individual EU countries that are G20 members; also included are the latest schemes in countries like Argentina, Brazil, Saudi Arabia, South Africa, and Türkiye, which launched in 2020 or later.

Newer schemes (shown in the right column of Table 1) look different in these two respects from the older cohort; a majority now has both mandated pricing (Row 1a) **and** mandated participation (Row 2), although the increases from the levels in the older ones are not dramatic. However, having a pricing mandate is not the same as requiring zero fees to consumers (1b); some of the newer schemes such as Rwanda or Tanzania mandate small but non-zero user fees. It is also interesting to contrast the pricing outcomes (Row 1c); even though there were no free-to-consumer mandates in the earlier cohort, free-to-consumer is nonetheless an available outcome in similar proportions of both. This may be the result of competition when a subset of major providers market free instant payments as a distinctive service offering (e.g., South Africa) or when market norms in more mature systems have evolved to become generally free (e.g., U.K.).

Perhaps the most striking change is in the ownership of the schemes (Row 3): Two-thirds of the more recent cohort (including PIX) are publicly owned and operated, whereas only a fifth of the earlier cohort were. This feature, of course, correlates with and affects pricing policy, making it more a public policy instrument and less a commercial issue.

Though this sample covers barely a quarter of total IPS schemes worldwide today, it does confirm that there has been a general shift both towards mandated pricing and mandated participation in newer schemes, as well as direct public operation. This picture is supported by the examples of end user pricing in the recent BIS Working Paper on IPS pricing, which lists seven IPSs in which a tier of low-value transactions and those by individuals are free in most cases (Aurazo et al., 2025, Table 3). This trend reinforces a growing sense that the digital public infrastructure (DPI) approach, which encompasses IPS as a key category, in fact favors public ownership of infrastructure. This is in part because public ownership brings the greatest freedom to price for widest use, in theory at least.

3 So What's the Problem with Free-to-Consumer Transactions?

While the pricing of instant payments has today become controversial in places like India, seen in a longer historical perspective, free-to-consumer is not a new attribute in payments; other widely used payment instruments including cash and credit cards are also free-to-consumer. They, too, have attracted controversy back in the 2010s over their optimal pricing and usage; a number of governments, from the EU to Nigeria, have sought to reduce the use of cash by limiting it to small transactions and/or by making it more expensive by charging fees, while others, from Australia to the U.S., have sought to make cards less expensive to use through measures like capping certain interchange fees.

These earlier pricing policies were often informed by studies about the "real" cost of cash. Economic research has long drawn the distinction between the **private cost** of an instrument for a particular group (for example, "free" means a zero direct cost to consumers, though they may incur other costs like travel to access cash) and the **social cost**, which aggregates the resource costs of each of the players in the chain in a society while eliminating the fees that simply reallocate costs among them. The results of these studies are very sensitive to their scope and methodology, especially in the categories of cost and of role players they include. For example, private cost in some studies is not only about fees but also about other frictions; while consumers may incur no fees to pay in cash, they nonetheless face other resource costs including the time and distance to get cash from a bank or ATM, and they also face risks like theft. These costs can be substantial: A Digital Planet study on the cost of cash in India based on consumer surveys back in 2012 estimated that residents of Delhi spent 6 million hours per year accessing cash (Mazzotta et al., 2014).[5] Similarly, users of cash are not homogeneous in their patterns of usage; individuals are different from retailers, which are usually the biggest handlers of cash other than banks, and introducing that category distinction changes the distribution of the costs of cash handling.

5. These costs can also be heavily gender-dependent.

In Europe, the European Central Bank (ECB) and its member central banks have produced numerous rigorous studies of the cost of cash and other payment instruments. A landmark 2012 ECB study found that cash had the lowest social unit cost, in part due to high usage, and that its burden lay mainly on banks and retailers (see Table 2) (Schmiedel et al., 2012). Instant payments were not recognized or widely available back then; the closest proxy in the study was "credit transfers," which, in practice, could cover a variety of sub-instrument types.

In 2022, the ECB revisited the topic, reviewing nine individual European country studies that had been completed since 2012 (Junius et al., 2022). They reveal a complex picture, with the unit costs very dependent on national patterns of usage. Debit cards were now cheapest in a number of countries with high usage, but in countries where cash was more prevalent, such as Germany, cash was still cheapest overall, at least for transactions under €20/USD $24. But patterns of usage were changing, with a general trend towards lower unit costs driven in the case of digital payments by increasing numbers on a more fixed cost basis.

To the EU research on instrument costs, Table 2 below adds a revenue column, which recognizes that each of these instruments has some form of revenue model behind it. So even on apparently "free" cash, for which banks and retailers incur most of the cost of usage, central banks earn significant seigniorage revenue, which is usually many multiples of the cost of printing notes.[6]

Reviewing these older payment instruments reminds us that patterns of usage are a function of incentives for issuers to offer and of consumer preferences to use, and that these do change over time. In some countries, banks have even started to charge for the deposit of cash,[7] while in some others, merchants are able to charge surcharges for accepting card payments to compensate for the fees they pay.

In the digital era, consumer expectations have been shaped more generally by the proliferation of pervasive "free" online services. Online search is one obvious example, more akin to credit cards as a business model, in that merchants or advertisers pay for it. Tech companies monetize widely used "freemium" apps like Gmail through accumulating data with which they can cross-sell other services like targeted advertising, and more recently, train AI models. However, as the aphorism goes, "If it's free, then you're the product." This is a reminder that "free" provision is never costless, and to be sustainable, a public or private service requires a revenue model of some form.

TABLE 2: COMPARING MAJOR CATEGORIES OF INSTANT PAYMENT INSTRUMENTS: EU 2012

Payment instrument	Unit social cost	Who bears the most resource cost of the instrument?	Who earns the most revenue on the instrument?
Cash	€0.42/USD $0.50	FSPs and retailers	Central bank (or treasury) through seigniorage
Credit cards	€2.39/USD $2.82	Acquirers and merchants	Participating FSPs via merchant fees; consumers via reward schemes
"Credit transfers"	€1.27/USD $1.50	FSPs	FSPs by cross-selling other servicesschemes

Source of columns 1 & 2: Schmiedel et al. (2012). Third column is the author.

6. Seigniorage is the profit earned by a central bank because the face value of cash issued exceeds the cost to produce and distribute it. Taking India for example, the seigniorage earned by RBI, proxied by the dividend it paid to the government, covered the costs it incurred to print new notes more than 40 times in 2024.
7. Cash deposit fees are common in South Africa, for example.

In the world of instant payments, transaction service providers like GooglePay and PhonePe in India are, in fact, pursuing different cross-subsidized business models:

- For GooglePay as an engagement anchor for the wider Google ecosystem, which monetizes data insights for advertisers and now to train AI models; and
- For PhonePe through a superapp model earning commissions on cross-selling other financial services.

In common with other large tech platforms, investors value their data-rich business models highly, even while they remain loss making overall for prolonged periods in the absence of substantial advertising revenue.[8] But temporal cross-sell is not the preserve of big tech only; banks' motivation for offering loss-making basic transaction accounts included cross-selling more lucrative financial services to these customers in time. A McKinsey report for Gates Foundation estimated that banks needed to earn about USD $5 to $10 per user per year through what they called "adjacency" revenues to cover the annual cost of a basic account, and that roughly half of that had to come from sources other than interest on balances (e.g., cross-sell or interchange) (Voorhies et al., 2013). However, in a world of increasingly open finance in which the informational advantage to an incumbent bank of holding a client's account is diminished, these additional streams seem more tenuous — unless banks decide to charge for access to the information, as JP Morgan Chase recently has.

4 So Who *Really* Pays for Instant Payments?

The foregoing description of measuring the costs of other payment instruments highlighted two relevant insights for instant payments:

- "Free" is never free in societal cost terms, even if it is true for certain players; and
- The costs of using, and also the incentives to use, payment instruments may change over time.

In fact, considering how deeply the costs of cash and cards have been studied in the past, it is striking how little the costs of instant payments have so far been studied in similar terms, even as it has rapidly emerged as a dominant digital payment instrument in an increasing number of countries.

In the absence of detailed or consistent information, we can speak only in general terms about the categories of costs for instant payment (setup versus ongoing) and how they are distributed across the scheme itself, its participants, and its main users (see Table 3). The BIS Working Paper on pricing in fast payments sets out the options within each cost bucket in more detail (Aurazo et al., 2025, Section 2).

Table 3 (Column 3) shows that the **setup costs to consumers** for using instant payments are generally very low if they already have suitable accounts and devices. This is indeed part of the appeal of instant payments on top of pervasive mobile "rails," and fuels the expectation that this digital payment instrument can finally compete with cash.

However, the **costs to set up and then run a payment scheme** (Column 1) can vary greatly from market to market, according to factors including:

- Technology choices — such as to build, buy, or lease the hardware and software;
- Regulation affecting choice of solutions; and
- The scope of the role played by the scheme operator — for example, whether or not the scheme is marketed under a common brand or not.

8. PhonePe, the largest UPI TPAP by market share, is reportedly valued at $15 billion though it has been loss making since formation in 2015. For information on its pre-IPO valuation, see Economic Times (2025c).

TABLE 3: TYPICAL COSTS OF INSTANT PAYMENTS

	1.Scheme costs (funded by scheme owners and participants)	**2. Participant costs** (for each to cover)	**3. User costs** (merchant/consumer)
Setup costs	▪ Design of scheme — facilitation and legal agreements ▪ Procurement of hardware and software ▪ Brand design and initial marketing	▪ Time absorbed by scheme design/negotiation (and transition from older switch, if applicable) ▪ Accreditation and testing ▪ Staff training costs ▪ Membership/joining cost ▪ Customer acquisition costs	▪ None/low (data to download the app) if they already have a payment account and a device (usually a smartphone) to transact ▪ Merchant may need additional tech to receive
Ongoing costs	▪ Core staff costs to manage ▪ Cybersecurity ▪ Regulatory compliance ▪ System maintenance ▪ Ongoing marketing	▪ Switching fee (paid to infrastructure operator) ▪ Management of participation in the scheme ▪ Product teams and customer service support ▪ Liability for fraud/error	▪ Data costs ▪ Fees (if any) ▪ Risk of loss from fraud

The Central Bank of Brazil (BCB) has shown that it may be done "on the cheap"; according to its Governor, PIX cost the BCB only USD $3–4 million to build.[9] However, he also noted that PIX costs BCB substantially more than this to run: some USD $10 million annually. Even that amount seems cheap for the volume of transactions handled, amounting to around 1/100 of a U.S. cent per PIX transaction.[10]

By general comparison, UPI's operator, the bank-owned utility NPCI, incurred total expenses amounting to around $200 million in 2024 from operating multiple payment schemes in India (NPCI, 2024). Of this total, the largest single category by far was marketing costs for its branded schemes (RuPay and UPI). Though its costs may be high, NPCI's revenues from processing a soaring volume of transactions have risen even faster. As a nonprofit distributing company, NPCI reported a "surplus" of over $170 million in the year ending March 2025, representing an enviable gross margin of over 50 percent. This is not far below the level enjoyed by Google's parent company, Alphabet, in 2025 (59 percent), although still well below the 80 percent level achieved by Visa. The point for payment schemes is that, even when charging very low fees per transaction, very large-scale schemes can generate sizable revenue streams.

Even if by keeping costs low (as for BCB with PIX) or by earning substantial revenues from large volumes (NPCI), payment schemes themselves may be sustainable, the business case for their participants can look quite different (Column 2). IPS **participants incur a series of scheme setup costs** which mount up — for example, the costs of acquiring small merchants, which may involve additional handholding and support, including printing (and regularly replacing) QR codes.

Different business models provide for different ways of handling this — PhonePe's venture funding to date has enabled it to aggressively seek market share for UPI transactions through new clients including small merchants; Brazilian digital banks with no branch

9. See speech by BCB President Campos made at Princeton (2024). It is not clear, however, which costs were considered in coming to this figure, e.g., whether it was only disbursement cost or included cost of staff time and overheads.
10. As a point of reference, but not a direct comparison since they include many more features and also overhead costs, Visa and Mastercard reported total costs that amount to 5–6 U.S. cents per transaction switched in 2024.

infrastructure like NuBank have promoted PIX as a way to gain new clients in an already highly banked environment. In both cases, the assumption is that future cross-selling will earn a return that will more than compensate for the setup costs. So far, the high market valuations of these newer digital players suggest that equity investors at least believe this proposition: NuBank's price-earnings ratio for example is four to five times higher than the average for Brazilian banks in general.[11] The very high valuations of both NuBank and pre-IPO PhonePe relative to national listed bank averages suggest that markets anticipate that these newer players are more likely to succeed in using and monetizing customer data than banks with legacy digital infrastructure and practices are. However, their path can still be risky; incumbents are usually more likely to have entrenched political influence, which may be used to sway regulation in their favor.

The incentives are different for incumbent financial institutions. This group may have deep pockets but must balance the profitability of complex portfolios of clients and products that may constrain their ability to invest deeply in one without a more certain return. Incumbents by definition have an existing client base, so at least they have a choice whether to acquire more clients using instant payments as a hook for other services, or simply to defend their existing client base from disruptors by offering access to instant payments on favorable terms without promoting it further. However, there is not a stable market equilibrium from the circumstances in which disruptors acquire never-banked customers while incumbents simply hold onto their existing customers; the future cross-sell revenue of the disruptors will come in part by taking away revenue presently earned by incumbents, through their ability to offer better pricing and tailored offers on credit. Even if incumbents counter the threat through matching offers, it will further strain their margins and hence their valuations and ability to raise growth capital.

Setup costs apart, the **ongoing marginal cost of participating in instant payments** thereafter is not zero; many schemes (but not PIX or UPI) charge participants a small switching fee per transaction to cover their costs. Certainly, because most of the scheme costs are fixed or semi-fixed, the average costs per transaction decline steeply with volume. However, certain categories of cost may rise; in particular, both PIX and UPI have reported rising incidence of fraud.[12] To be sure, the cost of fraud is not all borne by the PSP — most sits with the victim. Fears of loss can undermine confidence in using digital payments at all. However, even if PSPs are not liable, they must handle increasing disputes and queries. Rising volumes of queries from third parties can strain even large-scale banking infrastructure, as the recent announcement from JP Morgan has shown, requiring investment to scale it alongside the volumes. While as new entrants, they may have built their digital infrastructure better for scale, even today's disruptors will face this challenge in future. There is the added risk that if fraud is not well addressed in the market as a whole, lower consumer confidence will at least slow providers' ability to harvest reward from increased digital use if not restrict their addressable market.

Country context also matters. In countries with established domestic card schemes, incumbents will also face the additional pressure generated by the likely displacement of transactional revenue from cards toward lower-fee or even no-fee instant payments. This can stoke pressures to supplement declining fee income by more risk taking through lending. A recent paper on the effects of introducing instant payments in the EU has highlighted this: "Banks, facing lost transaction-fee revenues, expand their lending portfolios, potentially elevating systemic risk" (Petrakis et al., 2025).

If a payment instrument is not a source of revenue to its providers, other dynamic effects may also occur:

- **Lower adoption by customers new to digital payments** as a result of PSPs spending fewer resources and placing less focus on driving uptake by new customers.
- **Lower usage levels among existing customers** as a result of PSPs providing only basic levels of service, which may disincentivize further usage. This may manifest particularly in the failure to maintain API performance, compromising the instant nature of the system.
- **Less innovation in the scheme over time** as a result of PSPs allocating fewer resources (in management

11. It is, in fact, similar to that of Visa (33x) which is, in itself, more than double the average PE ratio of listed U.S. banks.
12. Total losses due to fraud connected to PIX were close to USD $1 billion in 2024, while NPCI has reported fraud losses in the order of USD $131 million in 2024.

time and cost) toward prioritizing the evolution of new use cases or new overlay features, which can enhance the experience or reduce risk.

The lack of revenue model for IPSs may also exacerbate market dynamics. Smaller PSPs may find themselves at a disadvantage in absorbing the cost of scheme interface and security requirements to join and participate, which could discourage smaller FSPs from signing up and make them less competitive, or if they are mandated to do so alongside the large, these costs increase the financial strain on them without offering the prospect of return and may displace resources from other important tasks.

The core underlying issue here is that pricing of IPS transactions is not a simple, static choice under the full control of a regulator, even in a publicly operated scheme. It is rather a complex set of choices over time that may have unpredictable but material effects on the future national financial system, because of factors that are not under the control of the regulator, like market entry and participant investment appetite and capacity. While this is not new for payment instruments, IPSs sharpen the questions significantly because IPSs can scale so rapidly, with the result that they are not just another payment option in the mix but can become central to the stability of the retail economy. The two main economic attributes which IPS pricing policy is likely to affect are:

- Which types of financial institutions are dominant in future — new entrants with lower digital-only cost bases or incumbents and "narrow" specialized institutions versus broad diversified ones.
- What proportion of the population uses digital payments and at what levels of usage — even disruptors with substantial resources are likely to balk at taking on clients beneath some income level or activity threshold. This threshold defines the boundary of what becomes the "subsidy zone" if policymakers wish to advance financial inclusion faster than economic inclusion.

A policy choice to set IPS pricing indefinitely to zero without external subsidy is in effect a bet that disruptive new players will succeed in cross-selling to sustain their revenue and that the resulting disruption to the existing financial system can be absorbed. If the new players cannot do this before their investor patience runs out, they will not survive.

5 So Who *Should* Pay for Instant Payments?

The foregoing analysis has shown that the burden of any payment instrument — who actually does pay — falls across three different classes of players to different degrees:

- The scheme owners, which may be public or private (or a mixture);
- The scheme participants, which may be a mix of disruptors and incumbents, as well as large and small financial institutions/PSPs so that the burden is not shared evenly among them; and
- Users, who may be further distinguished either as individuals or as merchants who are high-intensity users (with further subsegments within each), resulting in unevenness in the burden of using IPS.

Among these groups and subgroups within them, there are at least three main ways of addressing the normative question of who **should** pay, and in which proportion:

1. **Ability to pay:** According to this criterion, banks and central banks are most able to pay, at least relative to consumers, hence, they should carry most of the burden by charging no or low fees even below cost recovery.

2. **Likelihood of benefit:** This criterion allocates according to who accrues future benefits, and allocates costs accordingly. Banks are usually considered future beneficiaries from reducing their cash handling costs. Banks are also considered potential beneficiaries of cross-sell through digitization and enlarging the banked population, though disruptors may capture these benefits more than incumbents. However, the same argument about benefits could also apply to the state in terms of its enhanced ability to levy and collect tax or to reduce leakage through greater transparency of digital payments. Some jurisdictions have started to explore how the state may harness some of these benefits of IPS: The Brazilian tax authorities gave notice in 2024 that they could access

PIX transaction records as the basis of assessing informal incomes.[13] Similar tax collection processes have been mooted in India (Economic Times, 2025d; Dharmakumar & Gopal Krishnan, 2025). Ironically, one group that may stand to lose is central banks, for which the reduction of currency in circulation may reduce seigniorage revenue unless the growth of bank reserve assets more than compensates.

3. **Strategic public goals :** There are several possible strategic goals that IPSs can advance. While these are often listed together, they do, in fact, have different implications for IPS pricing and consequent usage:

   a. **Reducing cash usage** (a benefit to society as well as particular high-intensity users): This would suggest a focus on the biggest volume cash pools, namely small merchant payments in most societies, which require a focus on the incentives to acquire these merchants and for them to be acquired — keeping merchant and customer fees to zero or low. Reducing cash is seldom an end goal but rather a step toward other goals, such as formalizing the informal sector (potentially with the benefits for tax take considered above), which would also place emphasis on acquiring small businesses, or better ability to monitor digital trails for law enforcement — for example, around proceeds of crime or money laundering.

   b. **Promoting the digitalized economy:** While this objective overlaps with (a), it is more likely on its own to lead to a focus on larger merchants and to the resolution of liability issues associated with digital commerce in order to build trust.

   c. **Advancing financial inclusion:** While this could be a corollary of both (a) and (b), this goal on its own would require a more explicit focus on the "issuing" side, i.e., ensuring that there is a large critical mass of people with digital payment accounts.

   d. **Digital sovereignty:** This approach may be less concerned with levels of usage than simply having an alternative infrastructure not under the control of a foreign company. This goal could lead to pricing incentives to adopt the IPS rather than foreign schemes.

   While all these goals are likely to advance together in the medium to long run, in the short to medium run after introduction of an IPS scheme, the measures needed to achieve them are likely to require prioritization in the face of dynamic tradeoffs.

Aurazo et al. (2025) set up a theoretical model of a multi-sided payment scheme applied to instant payments with another societal goal: maximizing welfare under a set of assumptions and constraints defined for each participant group. Based on its assumptions, the model can demonstrate the implications of different pricing choices. In particular, that pricing schemes that impose zero merchant fees will lead to lower adoption than a scheme that imposes zero individual fees (with non-zero interchange fees and merchant fees), and that, compared to schemes that impose zero individual or merchant fees, the demand for fast payments is higher when the IPS reduces the participation fees for PSPs. The model clarifies certain choice sets but needs, like any model, to be calibrated for a particular environment.

In practice, most newer IPS schemes have concluded that PSPs should and could pay, at least initially, with the central bank funding some or all of the central scheme costs in publicly operated schemes like PIX or Bre-B. This determination rests both on a business case based on future cross-sell benefits to PSPs and on the practical consideration that banks in particular are best able to fund the financial infrastructure needed to achieve societal goals like those above.

While this determination leads to aligned outcomes in particular circumstances, there are several factors suggesting that it may not, without further analysis:

- **While large banks may be mandated to participate in, and even required to fund, IPS development, their willingness to promote adoption and usage of the scheme will depend on their perception that the future benefits are in fact realistic *for them.*** The consequence of not believing this is that some schemes may languish in low-level usage equilibria, incurring fixed costs with little transformation. This is close to the situation described in the BTCA analysis of instant payments in Pakistan (BTCA,

13. On September 18, 2024, the Brazilian Federal Revenue Service published Normative Instruction No. 2219/24 to expand the oversight system for conventional financial institutions to cover digital banks, credit card operators, and PIX transactions. The measure aimed to prevent tax evasion and money laundering; the information would be transmitted from financial institutions to the tax authorities, who then cross-check this data with what taxpayers declare in their income tax returns (Luciano, 2025).

2025) four years after its inception.[14] Valuations of incumbent banks compared with new disruptors in some markets mentioned earlier suggest that investors at least are skeptical that incumbents will realize this value.

- **The benefit of future cross-sell is likely to be unevenly distributed across FSPs.** In particular, it is not clear that, in an era with open finance eroding incumbents' informational advantages for serving even their own clients, existing banks will benefit. Instead, capital markets seem willing to fund and reward digital disruptors, like India's PhonePe or Brazil's NuPay, with the ability to raise the cheap equity capital needed to acquire low-value customers with a long-term perspective. This disadvantage for incumbents is compounded if markets perceive that their existing revenue schemes (e.g., cards) are also at risk of cannibalization through IPS.

- In addition to differences between incumbents and challengers, **there are also unequal effects across incumbent institutions of different sizes.** Since participation in an IPS carries at least some fixed upfront and ongoing costs to meet standards of integration, smaller financial institutions may be less able to absorb the additional costs unless there is a compensating revenue flow.

If charging fees to consumers or merchants is considered too great a friction to lure them away from using cash or other instruments but the strategic public benefits are strong, then governments may choose to subsidize the costs for a period, at least. As described earlier, India has adopted a part-subsidy of merchant fees to PSPs after their removal in 2020. But as the case of India also shows, it remains controversial as to whether subsidies are adequate and also sufficiently certain in the medium run to motivate efforts that will only pay off in future. In fact, governments have to choose carefully what they want to subsidize, based on which priority above they are addressing; if it is to promote inclusion, the subsidy would look different than if it is to reduce cash.

Of course, since all parties in the payment chain bear some cost that may change over time, a dynamic mixture should be possible. However, IPSs have so far seemed quite "sticky" in their approach to pricing. One of the big advantages of the card interchange regime as a part of card scheme pricing was that it allowed these schemes to adjust incentives over time for different types of market and transactions, but these adjustments took place within the clear parameters of the scheme's overall objective to grow usage sustainably and the choice to charge merchants primarily so that credit cards could compete with cash.

6 Recommendations: Looking Back While Also Looking Ahead

This brief has argued that, while the rapid proliferation of instant payment schemes worldwide raises acute questions about their pricing approaches, the underlying issues are, in fact, not that new. Older policy debates about how to change the predominance of cash and even cards going back 10 or 20 years have raised similar questions. Further useful insights can be drawn from the interventions into tilting incentives for the usage of different instruments. As one example, a 2020 EU study of the outcomes of its card interchange fee regulation five years after imposition found that it had "facilitated entry into and competition on several payment markets, most notably on the acquiring market, but consumers and merchants do not seem yet to have reaped the full potential of the benefits" (Copenhagen Economics, 2020).

However, the current emerging IPS landscape presently seems curiously blind to this longer and larger history of what has worked and what hasn't. But from the brief summary here of that wider story and also from the review of emerging IPS pricing practices, a few clear recommendations emerge.

First, **there is no single pricing recipe that will result in IPSs taking off in a particular context.** Replicating India's or Brazil's pricing approach will not replicate

14. As an example of a very useful, insightful report, see the recent BTCA report (2025) on Raast in Pakistan, which sets out to analyze why P2M instant payments have languished in Pakistan and to make recommendations to address it.

their outcomes unless the question of incentives in the national payment ecosystem are carefully considered first. A decision to adopt free-to-consumer (and even free-to-merchant) may yet result, but these characteristics do not follow automatically as a recipe for successful IPSs everywhere.

Second, **pricing strategy for IPS is too important and too dynamic for it to be either set once for all or to be left as vague and uncertain.** Early stage schemes with unsure trajectories differ from established mature schemes and may need the flexibility to experiment around pricing. In this respect, the central bank of Colombia's decision to specify free pricing for participants in Bre-B for the first three years is an improvement on an indefinite "free" approach, because it at least sets a specific horizon for review. However, even in the early days, schemes like Bre-B may benefit from setting out how their financing strategies may evolve under different trajectories of uptake so as to shape participant expectations around the business case for longer-term investment.

Third, **meaningful discussion about this sensitive issue requires more data about costs and revenues of schemes and their participants.** Regulators should encourage the release of regular, credible data about scheme usage and costs that can inform analysis and research. PIX and UPI have made some strides in the direction of greater transparency of disclosure around scheme usage patterns, but they could do more around costs to support the analysis of a question of this importance to the digital transition.

Fourth, **credible modeling frameworks are needed to support evidence-based discussion among scheme owners (especially when they are central banks) and private participants.** These need to take into account the costs of different categories of users, such as merchants of different sizes and types. As we have seen, instrument pricing models may diverge widely in their assumptions and therefore their results; the real value lies in building a consensus around the factors to be considered and how. Certainly, earlier cost of cash models could serve as a starting point (World Bank, 2016; World Bank, 2024) but need to be modified and updated for the rapid displacement of cash that can happen, as witnessed in markets where IPS has taken off, like India and Brazil.

Finally, **even while the uptake and pricing of instant payments consume much attention from policymakers and PSPs today, there is a need to sound a cautionary note**. Private stablecoins are a fast-rising competitor on the horizon that could fundamentally change the economics of payments, making today's IPS pricing debates somewhat moot. In certain environments, stablecoins could well displace centrally managed instant payment instruments in future, at least in certain use categories like cross-border transactions. Unless instant payment schemes carefully consider the balance of incentives over time that cause them to become well used and trusted, they may face a declining usage trajectory in the not-too-distant future, like cash today in some settings. Being free-to-consumer alone may not be enough to arrest the decline; in some markets, even apparently "free" cash has become regarded by consumers and merchants as the less-preferred option to digital payments. As with cash, so IPSs too may come to experience how quickly digital disruption can diffuse once there is a critical mass of smartphone users in a market.

Instant payment schemes are now in the vanguard of economic digitization in many countries. They are increasingly seen as critical infrastructures for digital transformation, and they certainly are. But they are also delicate, complex systems in which choices affecting the incentives of their participants and users will have long-lived outcomes. It's time to treat IPS pricing decisions recognizing these realities.

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Annex: Summary of IPS Dataset Features

Country /Region	IPS name	Launch year	G20 member state?	Free-to-consumer widely available on small transactions at least?	Is there a pricing mandate?	Is free-to-consumer mandated?	Is participation mandated?	Ownership type
Argentina	Transferencias 3.0 (QR overlay)	2020	Yes	Yes	Yes	Yes	Yes	Public
Australia	NPP (New Payments Platform)	2018	Yes	Yes	No	No	Yes	Private
Brazil	PIX	2020	Yes	Yes	Yes	Yes	Yes	Public
China	IBPS	2010	Yes	Yes	Yes	No	Yes	Public
Colombia	Bre-B	2025		Yes	Yes	No	Yes	Public
European Union	TIPS (SEPA Instant)	2018	Yes	Yes	Yes	Yes	Yes	Public
Ghana	Ghana Instant Payments	2016		No	No	No	Yes	Public
India	UPI	2016	Yes	Yes	Yes	Yes	No	Private
Japan	Zengin More Time System (24/7)	2018	Yes	Varies	No	No	Yes	Private
Kenya	PesaLink	2017		Yes	Yes	Yes	No	Private
Mexico	CoDi	2019	Yes	Yes	Yes	Yes	No	Public
Nigeria	NIBSS Instant Payments (NIP)	2011		No	Yes	No	Yes	Private
Pakistan	Raast	2021		Yes	Yes	Yes	Yes	Public
Philippines	InstaPay/PhilPaSS	2017		Varies	No	No	Yes	Public
Republic of Korea	KFTC Interbank Funds Transfer/EBS (24/7)	2016	Yes	Varies	No	No	No	Private
Russia	Faster Payments System (FPS)	2019	Yes	Varies	Yes	No	Yes	Public
Rwanda	eKash (NDPS)	2025		No	Yes	No	Yes	Public
Saudi Arabia	Sarie	2021	Yes	Yes	No	No	Yes	Public
Singapore	FAST	2014		Yes	No	No	Yes	Private
South Africa	PayShap	2023	Yes	Yes	No	No	No	Private
South Africa	RTC	2008	Yes	No	No	No	No	Private
Tanzania	TIPS (Tanzania Instant Payments)	2020		No	Yes	No	Yes	Public
Thailand	PromptPay	2017		Yes	No	No	Yes	Private
Turkiye	FAST	2021	Yes	Yes	No	No	Yes	Public
United Kingdom	Faster Payments	2008	Yes	Yes	No	No	No	Private
United States	RTP (The Clearing House)	2017	Yes	Varies	No	No	No	Private

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