

# **The Global Payments Highway: Getting Rid of the Toll Roads**

PWR 2MA: Research-Based Argument

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## **Introduction**

Picture Mr. Smith, who runs a small family bakery in Newcastle, England. Most of his customers pay by card. In accepting each card, he incurs a cost, a large portion of which is due to the interchange fee<sup>1</sup>, set by the card scheme<sup>2</sup>. Think about what Mr. Smith would do as a small-business owner if he found out that the 0.3% per transaction charge from Visa cards would increase to 1.5%. In other words, the cut taken from every Visa purchase would be five times as much.

What would you do if you were Mr. Jones? You could surcharge Visa cardholders – but this sort of price discrimination is not allowed in most legislations (Andriotis 2021). Then, you might consider not accepting Visa at all – but half your customers have Visa, and your small bakery is not that unique – there are dozens of other bakeries and coffee shops just like yours. If just one

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<sup>1</sup> Interchange fees are transaction fees that must be paid from the acquiring bank (representing the merchant) to the card-issuing bank (representing the cardholder), but set by the card scheme (i.e. Visa and Mastercard). The acquiring bank then passes the cost onto the merchant by discounting the fees from their settlements.

<sup>2</sup> A card scheme is the brand operating the card network, such as Visa, Mastercard, American Express. It connects acquiring banks (on the merchant side) to issuing banks (on the cardholder side).

of them continues accepting Visa, you might lose customers to them. Defeated, you settle to give Visa and big banks the extra cut from your margins. And so do all other Mr. Smiths out there.

In what seems to be a zero-sum game, Visa and Mastercard, who control the networks, hold substantial market power. They are an invisible giant. Combined, they are the 7<sup>th</sup> most valuable company in the world (Yahoo!Finance; Statista 2022). They process approximately 95% of card transactions in western countries (i.e., excluding China), taking a small cut of 0.14% from each of them (GlobalData 2020) – a global toll road on the global payments highway. Visa and Mastercard *can* set abusive fees and get away with it because they *know* businesses will keep on accepting them.

These schemes control the networks of what Oxford economist Sir John Vickers calls “must-take cards.” Small businesses are coerced by network effects to take the cards even at exorbitant rates. What’s more is that Mr. Smith’s anecdote above, albeit an example, was not hypothetical: recently, small businesses in the UK went through the same decision process you did. Due to Brexit, the European Union (EU) Interchange Fee Regulation (IFR) cap of 0.3% per transaction (European Commission 2016) was voided, leading both Visa *and* Mastercard to hike their cross-border interchange fees fivefold, together.

While Visa and Mastercard both cite “working for everyone” as part of their corporate identities and marketing campaigns, is it really the case? Even back in the European continent, where the IFR is in place, the “must-take” card system is still harming small businesses. These are small businesses who, *combined* are more economically significant than Visa or Mastercard, creating over 2/3 of job opportunities and contributing up to half of the EU’s GDP, but *individually*

stand no chance in bargaining against the giants of the payments system (European Commission, “*Unleashing...*”, 2020).

In this paper, we study the effects of the IFR on small European Businesses, showing that although it tackles the issue correctly from a theoretical perspective, it is still insufficient, especially in guaranteeing efficient payments markets in the long run. As payment technologies such as Open Banking advance and continue to reduce the costs of acceptance, the IFR will create unintended incentives that will hinder the adoption of these more efficient payment methods by incumbent banks.

### **Literature Review**

Card schemes exist to connect two sides of a payments market: cardholders and merchants. A common feature of such two-sided markets is an “efficiency mechanism,” such as the interchange fee. As economists Evans and Schmalensee explain in their chapter “It Takes Two to Tango,” the interchange fee solves the “chicken or the egg” problem: to get merchants to accept your card, you need a large cardholder base, but to get a cardholder base you need many merchants to accept your card brand (pp. 133-150).

If issuing banks receive revenue from interchange fees, they can offer cardholders better rewards (air miles, or cashback, for instance). Merchants are then pressured to accept cards in two ways. First, because there are now more customers who will show up to pay with a card. Second, any merchant who does *not* accept a customer’s card is not only decreasing a customer’s convenience benefit, but also depriving them of their miles and rewards (Vickers). So, the merchant who *must take* the cards to avoid losing customers also ends up *paying* for the subsidy

that puts them into this position in the first place (Frankel in Federal Reserve, 2005). We are back to the zero-sum logic we saw in the introduction.

There is, however, a surplus-optimizing fee for merchants and cardholders: one that maximizes the best possible outcome for all users (merchants and consumers) of card networks, not just the banks and network operators. The model developed by economists Rochet and Tirole (2011) lays the groundwork for this. Theoretically, they consider the “tourist test” (pp. 467-468), where we imagine a tourist about to pay at a cashier. The merchant can choose whether to take the tourist’s card or make them pay in cash. The decision-making process of the tourist test abstracts away Vickers’ ‘must-take’ argument because a tourist is not a returning customer, so the merchant gains no loyalty benefits from accepting the card. Instead, they perform a simple cost-benefit analysis: do I prefer to take in the cash and deal with an inconvenience of security risks, depositing, and manual accounting, or will I take the cut from a card transaction fee?

Rochet and Tirole essentially show that the interchange fee that maximizes the card-network user surplus (i.e. merchants and cardholders) is one such that a merchant is *indifferent* between accepting the card or taking in cash from the tourist. In other words, the cost of accepting a card is equivalent to the cost of accepting cash (yes, there are costs to accepting cash, as we will show further on). This is an important result that can be used as a benchmark to evaluate whether fees are set at the right level.

### **Research Methodology**

Several economists have discussed the inefficiency of the interchange fee setup, each with their own models and ideas, ranging from setting higher, lower, zero and even negative interchange

fees (Evans & Schlamensee; Rochet & Tirole; Frankel; Vickers). Yet, most of this literature has not been put to practice. Because this problem is largely invisible to consumers, politicians and governments do not feel urged to act on it, and scholars – who do not typically own businesses – do not focus on the specific welfare effects towards small enterprises, even though they are a significant part of our economies.

To address this gap, we will evaluate one of the most recent and relevant pieces of public policy regulating interchange fees in a large market: the European Union’s Interchange Fee Regulation (IFR) that went into effect in 2015 – the same regulation which, when voided by Brexit, led British cross-border interchange fees to increase fivefold. The EU recently claimed in its 2020 IFR review report, that they achieved “major positive results” so far (European Commission, “*Report...*”, 2020). We will evaluate this claim by using the ‘Tourist Test’ framework described above. While Rochet and Tirole’s model is limited to a theoretical framework and some of their parameters cannot be easily measured in the real world, we can apply the Tourist Test principle to evaluate, based on real world payment acceptance costs and estimated cash handling costs, whether the IFR passes the test – in other words, were fees regulated to an efficient level?

At last, we will also address the lack of independent reports other than EU-commissioned ones on the IFR, by reviewing data by EuroCommerce, a European retail organization, on the impacts the IFR has had on businesses, before drawing conclusions on the extent to which the IFR is a successful piece of regulation now and into the future.

### Applying the *Tourist Test* to the Interchange Fee Regulation (IFR)

As introduced previously, the Tourist Test determines the user-optimal interchange fee level (Rochet & Tirole, pp. 467-468), and it is passed if a merchant is *indifferent* between accepting card or cash. In other words, the fee cost of accepting card must be at most equal to the cost of accepting cash. While it may seem that cash acceptance is free, there are implicit costs to it: the security risk of keeping cash in-store, handling, and depositing it, and so on. Therefore, a way to evaluate the IFR interchange fee cap is to compare it to the cost of cash acceptance in Europe.

A recent study by payments consultancy CMSPI found, by interviewing hundreds of European merchants, that the average cost of cash acceptance in Europe is of 0.2% (MacDiarmid, fig. 3). This means that any card fee set at or below 0.2% should pass the tourist test, and therefore be considered socially optimal. As seen in Figures 1.1 and 1.2, the IFR did achieve this by capping debit transactions at 0.2%, and closely hit the benchmark by capping credit interchange fees at 0.3%. At the most basic level, it shows that the Interchange Fee Regulation was grounded in the correct theory and aimed to increase welfare of consumers and merchants in the card market.

### Interchange fee for debit card transactions

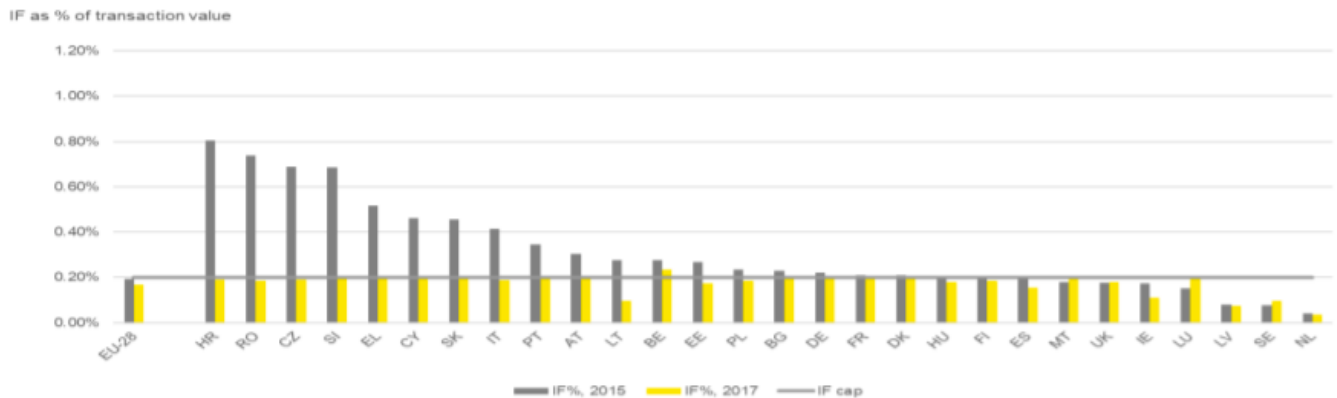


Figure 1.1 – **Debit** Interchange Fees before and after IFR (European Commission, 2020, p. 25)

## Interchange fee for credit card transactions

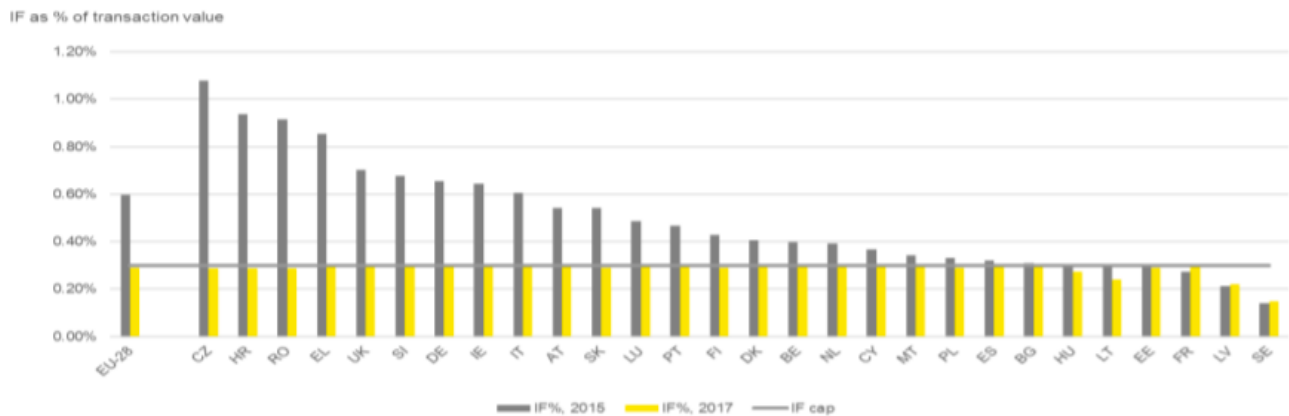


Figure 1.2 – **Credit** Interchange Fees before and after IFR (European Commission, 2020, p. 25)

Therefore, upon reviewing the European Union’s 2020 self-evaluation, we initially agree with their conclusion that the IFR met its goals, since they do pass the tourist test, which means that theoretically they have achieved the most efficient market outcome.

### One-size-fits-all? A Closer Look

This is, however, not a black and white matter. A one-size-fits all rule cannot be applied to all European nations equally. Europe is a common market, but not a single country with the same habits, culture, and economy. Upon inspecting Figures 1.1 and 1.2 closely, the most striking difference before and after the regulation is that, before, countries had a wide range of different fees, ranging from north of 1% in the Czech Republic, to under 0.2% in Sweden. After the regulation came into effect, most countries now have the same fee at at the cap level. This is not necessarily bad, but in a few countries, such as Malta, Luxembourg and, again, Sweden, the post-IFR fees even increased from their levels below the cap.

While, on average, European interchange fees pass the tourist test, each country's market is different — cash penetration varies drastically from 28% in Belgium to 75% in Greece (Statista 2019). To assume that the cost of card acceptance matches the cost of cash acceptance in each of these distinct markets, if interchange fees remained at the same cap level throughout Europe, is naïve. While the lack of data on the cost of cash acceptance per countries makes going deeper into this argument beyond the scope of this paper, it follows by the different amount of cash penetration that a one-size-fits-all cap on interchange fees does make the merchant indifferent between card and cash if in each country they value cash in different ways.

Further inspection of the IFR also exposes its incompleteness in other aspects. EuroCommerce, a retailer union in Europe, issued a report reviewing the impacts of the IFR on European businesses. It is important to hear the voice of those who are affected the most by the regulation, but not often heard. EuroCommerce points to the fact that the regulation appears to do much, and does address key issues, but is not substantial in holistically fixing the problem of high fees.

The IFR, for instance, only capped fees on consumer credit and debit cards. While these account for most payments, other card types, such as corporate and business cards, which are still commonplace, remain with fees over 1.5% (see figure 2). Small businesses pay more when you choose to pay with your company card. What do they have to do with whether you had a business or family lunch?



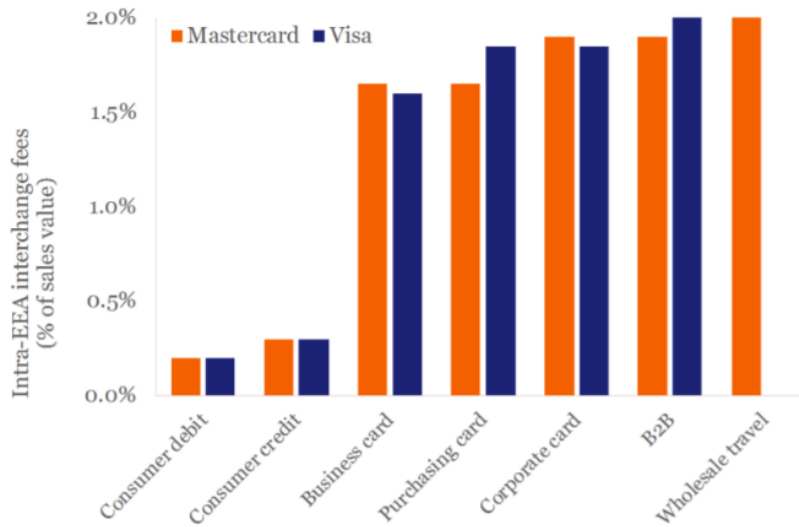


Figure 2 – Commercial Card Interchange can be up to 10x higher than the Regulated Consumer Cards (Eurocommerce, p. 75)

This is not as bad as the gap in regulation when it comes to card-not-present transactions (i.e. when you type your card on an e-commerce website). Card-not-present interchange fees remain above 1% levels. This is particularly striking when you consider that e-commerce accounted for over 15% of all retail trades in Europe (CRR in Statista 2019), and many small businesses relied on card-non-present transactions as a lifeline during the COVID-19 lockdowns.

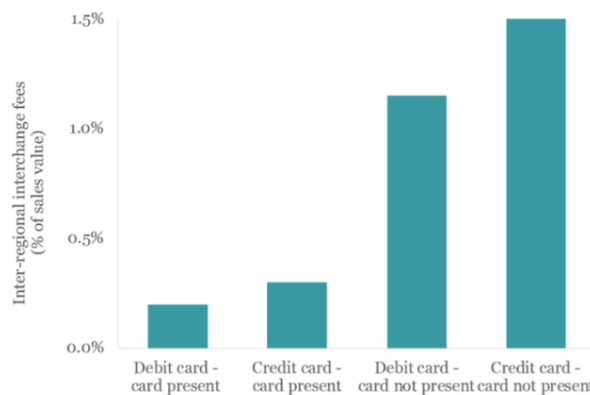


Figure 3 – Card-present and Card-not-present Interchange Fees in 2018 (EuroCommerce, p. 81)

Finally, it is also relevant to consider where did the cost savings go. While we say that merchants pay these fees, they do not pay them directly: the merchant's payment processor (or acquirer) must pay the interchange fee, and then passes this cost onto the merchant. Were the savings then also passed on? It remains another topic to be further investigated, as the answer depends on how contracts are set. While large chains tend to have special contracts with payment service providers (designated as Interchange++) and receive a complex bill with a breakdown of each exact fee from each card they processed, smaller merchants tend to get charged a "blended" fee, which is a weighed average of all different transaction costs, to simplify the complexity of Interchange++ (European Commission, p. 10). While a blended fee is simpler, and well-suited to small businesses who will likely not be staffed with an entire accounting department to review the card bills, it is also a less transparent form of pricing.

The answer to whether savings trickled down is therefore not clear. The European Commission report points out an average gain in revenue of EUR 1,200 million by the payment processors due to the interchange fee savings, and a loss of similar proportions to the card issuing banks who stopped receiving such fees. But it is unclear how blended prices have adjusted with the IFR, let alone whether merchants lowered their operating costs and were able to pass this onto consumers through lower prices.

What we can draw from the analysis of the above data is that while the European IFR was well-designed in theory, it is flawed in its one-size-fits-all approach. One cannot claim victory over so many different cultures, geographies, and economies by saying that on average, the interchange fees pass the Tourist Test at a European level. The IFR was also insufficient in scrutinizing all players of the card market and ensuring that discounts trickled down to merchants and, eventually, to consumers through lower retail prices. Finally, the closer scrutiny of the data brings one

important hypothesis to be considered: looking into the future, might the IFR cap pose adverse incentive effects, and hinder innovation in the payments space?

### **Unforeseen Incentives**

In this final section, we extend our analysis beyond that of determining the success of the IFR over its last six and a half years of existence and bring forth a problem of how the IFR and other recent developments in the payments market, in the long run, set incentives that perpetuate existing market setups, rather than fostering innovation and efficiency. As a Financial Times op-ed from 2019 aptly puts it, “companies from Apple and Starbucks to PayPal and Amazon have all devised new ways for [consumers] to make purchases. In theory, their rise is supposed to disrupt the lock that credit card companies have on the payment business. In practice, they simply offer different ways to connect a card to execute a transaction” (Yuk).

Figure 4, below, illustrates key innovations in electronic payments over the last 70 years, and the common denominator amongst them is that they all involve easier ways to pay... using a Visa or a Mastercard. In recent years, card networks have seen their revenues and market share strengthened – not weakened – by these new technologies supposed to “disrupt” payments (Yuk 2019). We will explore some more efficient technological alternatives to payments as well as examine what has kept them from being widely adopted. We will limit ourselves to new technologies that could realistically replace card networks in the short run, on existing banking rails. In other words, we will not discuss decentralization or cryptocurrencies, but rather technologies within Open Banking that can operate together with today’s banks, with the intention

of showing that more efficient options exist even without major structural changes to the financial system.

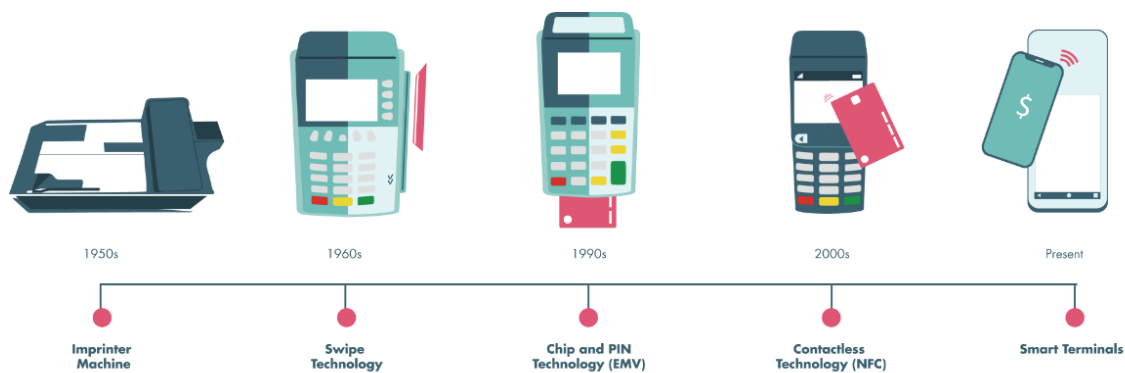


Figure 4 – Evolution of payment technologies have always involved... a card (Payment Experts)

We have seen, over the last ten years, the introduction of Open Banking into payments systems (Deloitte). While in the 1970s you would need Visa and Mastercard as middlemen connecting merchant banks to consumer banks, Open Banking allows banks to easily provide Application Programming Interfaces (APIs) for peer-to-peer transactions to occur between bank accounts, at much lower costs. This is so firstly because the real-time, web-connected, API technology is more efficient than the card scheme rails created in the 1970s, which until today rely on batch files being sent once a day (Visa Inc., *Visa DPS...*). Second, there are less middlemen involved – at most, *one* private company who runs the technology (as opposed to a payment service provider, acquiring bank, card scheme and issuing bank who sit in between merchants and consumers), and at the very best, a costless payments rail sponsored by the Central Bank, as is the case with Brazil’s PIX system, which is already taking away a portion of domestic debit card volumes (Capurro & Sims, 2021).

The question remains: why haven't open banking technologies replaced existing Visa and Mastercard rails? Many explanations can be given, from the fact that the zero-sum network incentives described in the introduction make it hard for merchants to stop accepting cards and consumers to give up on gaining miles, to the lobbying done by the card schemes to maintain relevance. But one less common explanation – which does not rule out the others – is that policies such as the IFR actually make it harder for open banking and other innovative technologies to thrive against the incumbent schemes.

While we have shown that the IFR was theoretically well-grounded on the Tourist Test principles, the world is increasingly moving cashless. Why should cash be the next best alternative that we use as the Tourist Test benchmark? Accepting a QR-code peer-to-peer transaction straight to your bank account will be free, or at least a fraction of the cost, based on what we described above. The IFR ends up creating a perverse incentive for banks and card schemes to maintain the status quo. Why?

With Open Banking bringing the new Tourist Test benchmark down to a fraction of the cost, IFR should lower its cap to match this lower cost if we want to keep interchange fees socially optimal. At the current cap, we can no longer say going forward, that the IFR has capped a high fee at a low rate; instead, it has anchored a fee at a higher than optimal rate. It ensures banks can continue to earn steady flows of 0.2% of all European card transactions. What's more is that it is an incentive against banks to embrace Open Banking. Why open more APIs, when you can keep on running an outdated 1970s payments rail that works and guarantees you a higher return?

One could argue that the IFR can keep on revising its cap to lower and lower rates, but there is an issue with inertia. Unless we can nudge the market to stop using traditional card payments and embrace Open Banking technologies, through regulatory sandboxes, or a Central

Bank-backed new payment rail as we saw in Brazil, banks will not open completely to Open Banking. As such, its use will not be widespread enough that we can justify lowering the IFR benchmark cost. Unfortunately, the EU is going in an opposite direction to that, joining the card scheme bandwagon with the recent announcement of the European Payments Initiative (EPI).

The EPI is being created by a group of European banks (see Figure 5) in cooperation with European regulators to compete with Visa and Mastercard. While, at first glance, it seems beneficial to give Visa and Mastercard more competition, the EPI is mimicking the same two-sided-market setup from Visa and Mastercard which we have seen is inefficient to merchants and consumers. Competition should not be in the form of new card networks – backed by banks who regardless already benefit from interchange fees. Any new card network is copy-pasting a two-sided market with incentives that were set up in the 1970s, when card usage was not commonplace. This is not true innovation. Competition should be coming from more technologically advanced, cost-effective solutions for consumers and small businesses.



Figure 5 – The EPI founding partners (EPI, 2022)

## **Conclusion**

The European Union's regulatory approach to card interchange fees was a well-intentioned, albeit insufficient and soon-to-be-outdated attempt at improving efficiency in card payments. An analysis of the IFR policy and of the economic data around it does bring important policy-making lessons to light, though. First, while policy should be grounded in theory, we cannot apply general rules over a diverse geography and claim success based on aggregate averages. The IFR failed in making sure the Tourist Test was passed individually in each geography; the European average is not a reality in any of the actual countries. We have also shown that the IFR failed to address some areas of card payments which continue to be abusive and unregulated. Neither has the IFR ensured accountability of the parties in the card network for passing the discounts down to merchants and, eventually, to consumers themselves.

If one lesson can be taken from the scrutiny of Europe's experience regulating payments, it is that policymakers must always consider the unintended consequences and incentives of their regulations as they extend themselves into the future. The IFR will not be relevant moving ahead into the next decade as we find new technologies that improve payments efficiency. It rather functions as a peg that guarantees banks have a safe stream of revenues from interchange fees, in a world where payments are increasingly becoming commoditized. Banks in Europe, as seen through the EPI, are incentivized to innovate on top of the outdated and abusive card scheme model, which relies on the existence of uncompetitively-priced fees to sustain itself and stands on the assumption that we need to incentivize consumers to use a card, rather than cash. This stands in detriment of embracing Open Banking and other technologies that can tear down the toll roads

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of the global payments system, driving down the cost of payments to near-zero and trickling down savings to the lifelines of our economies, small businesses, and, by extension, consumers.



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