

Price discrimination and cross-subsidy in financial services

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Summary

Charging different prices to different individuals for the same product or service has been a common practice since Ancient Greece. We experience it so commonly that it rarely attracts comment and is seen as a normal part of life, such as when we see a film at the cinema or catch a flight. Contrast this with concerns about such pricing (also known as price discrimination) expressed in courts and by consumer groups and we have a conundrum. Why is it that a practice that barely merits any notice in some contexts provokes calls for, and in some cases initiates, regulatory intervention in other contexts?

Let us initially define terms. **Price discrimination** occurs where firms charge prices to different consumer groups, with different mark-ups on the costs of supplying the product to these groups; for example, prices differ while the costs of supplying the consumer groups are the same. In other cases, prices to groups of consumers may be the same but the cost of supplying varies between them. This includes cost differences which arise because consumers have different risk profiles. Price discrimination is therefore distinct from purely cost-reflective pricing.

Cross-subsidy is commonly used to refer to the distributional consequences of price discrimination. Consumers who are charged high mark-ups may be considered to 'subsidise' those who are paying lower mark-ups (for reasons other than costs/risk). Economists usually use it more narrowly, to refer to situations where certain consumer groups or products are priced below economic cost, while sales to other consumer groups or sales of other products are profitable. In this paper, we focus on cross-subsidy in the narrow, economic sense.

This paper uses an economic lens to examine price discrimination and cross-subsidy in financial services. It sets out how economists analyse such pricing practices and how that analysis addresses concerns about fairness, efficiency and distribution. It also examines the link between the pricing practices and competition – recognising that price discrimination and cross-subsidy can be products of a normal and maybe very intense competitive process, but that the same practices can also be an indicator of weak competition in some segments of the market. Competition can be weakened by such pricing and may be strengthened by appropriately designed policy interventions.

The focus on these questions reflects the widespread use of this pricing in financial services. This is in part due to the nature of contracts, of costs and of consumer behaviour in financial services. This pricing may become more prevalent as Big Data use increases and as firms become more sophisticated in their understanding of, and ability to react to, consumer behaviour.

Pricing practices take many different forms and evolve over time. However, the form of the pricing practice is less important than its effects (though both are linked). Economics provides us with the conceptual tools to explore the consequences of product and pricing strategies that firms use. As set out in this paper, these concepts improve our understanding of when firms' strategies may give rise to regulatory concerns.

What lessons are to be learned?

Economic analyses show that there can be no presumption that these practices are either harmful or beneficial. First, the relative lack of concern about price discrimination in some cases is well justified. Price discrimination can occur in markets where firms compete for consumers. Such pricing may encourage competing firms to charge lower prices to win customers and may make all consumers better off than uniform pricing. Moreover, price discrimination can be an

efficient way for firms to cover their fixed and common costs and it can expand the market, allowing some previously priced-out customers to access the market.

However, concerns about price discrimination can also be well founded. Such pricing can signal weak or distorted competition. Some forms of price discrimination and cross-subsidy, especially when used by firms with substantial market power, can drive out actual and exclude potential rivals, further reducing competition in the market. A firm's ability to identify a consumer group and charge them high mark-ups may indicate those consumers have few available competing options – or that barriers stop those consumers from accessing these options. This is clearly a concern for a regulator with a competition objective, such as the FCA.

Further, these pricing practices usually have distributional consequences – some consumers benefit from lower prices, while others face higher prices and may even stop buying. For example, sophisticated consumers (the 'savvy') could secure good deals while others (the 'non-savvy') face higher prices. These distributional effects may persist even if firms compete vigorously. In other cases consumers can choose whether or not to become informed ('savvy') and high prices may incentivise them to check the details of a firm's offer. In these cases, the challenge for the FCA in terms of its consumer protection objective is to decide when the characteristics of the 'non-savvy' warrant intervention, given the characteristics of the 'savvy'. In addition, a regulator will consider whether the interests of consumers who are considered vulnerable for policy reasons are being damaged.

Regarding policy, the mere presence of price discrimination or cross-subsidy does not necessarily warrant an intervention. Whether an intervention is appropriate depends on the identification of harm resulting from the practice, as well as the expected material improvement in welfare from the intervention.

Assessing whether pricing practices are harmful to consumers and competition requires a case-by-case assessment based on detailed data. This requires considerable resources but is important for judging whether an intervention is required to protect consumers or to improve competition in the market.

To reduce any harm from such pricing, a regulator may directly intervene on pricing practices, or may intervene to address underlying market failures, such as market power. Some regulatory interventions that stop short of banning price discrimination or direct price capping appear to have had positive impacts in addressing problems arising from price discrimination. However, badly designed or inappropriate regulatory interventions to address such pricing's effects can lead to undesirable consequences for consumers and competition. Such interventions might, for example, reduce consumers' incentives to shop around and switch and hence lessen pressure on firms to compete. The Competition and Market Authority (CMA), for example, found that Ofgem's policy package, which limits price discrimination by energy providers, adversely affected competition 'by reducing retail suppliers' ability and incentives to compete and innovate in designing tariff structures, and by softening competition between PCWs' (price comparison websites) and recommended removing those restrictions (CMA, 2016b, para. 12.356/7).

1 Overview

Purpose

There are many forms of pricing practices adopted in financial services. Our focus here is on two groups of practices. Those that lead to different consumer groups being charged different prices by a firm for reasons other than cost (price discrimination) and those that lead to one group of consumers being supplied at prices below cost while the firm avoids losses by charging other consumers prices above cost (cross-subsidy). This considering prices and costs ex-ante, not pricing below or above cost because a firm has underestimated or overestimated the costs of supplying the consumer.

Financial services firms are able to differentiate their prices to different consumer groups or to individual consumers for a number of reasons. In particular:

- Financial services products, such as personal current accounts, loans or insurance policies, involve consumer specific contracts. One consumer cannot transfer their insurance or current account to another customer. This allows firms to set prices to different consumers, and prevents consumers from re-selling to, or buying from, someone at a lower price.
- Financial services firms often hold substantial amounts of information about their consumers that can be used to segment them into different groups according to their valuation of the product and hence their sensitivity to price. 'Big Data', that is increased availability of detailed consumer data and better analytics, is expected to increase firms' capabilities in this regard.¹
- Financial services firms often have a degree of market power that is driven, for example, by fixed costs (which do not vary with the level of output level and may be common to a number of products). These make further entry into a market difficult. Another reason for firms possessing market power may be consumers' weak demand response.

This paper set out the key economic principles on price discrimination and cross-subsidy and considers:

- when such pricing is a potential cause for concern
- what analysis is required to assess such concerns, and
- whether and how best to intervene to address any concerns

Any assessment of pricing practices should be specific to the product and market in question. Further, it is not the form of the pricing practice that matters, but the effect on consumers and consumer outcome. The effects of such pricing depend on the market context, so a case-by-case assessment is required to avoid the risk of incorrectly identifying the problem and proposing an inappropriate solution.²

Context

This occasional paper is motivated by the FCA's past and ongoing work on consumer protection and competition in financial services and summarises the economic theory and policy considerations underpinning part of this work.

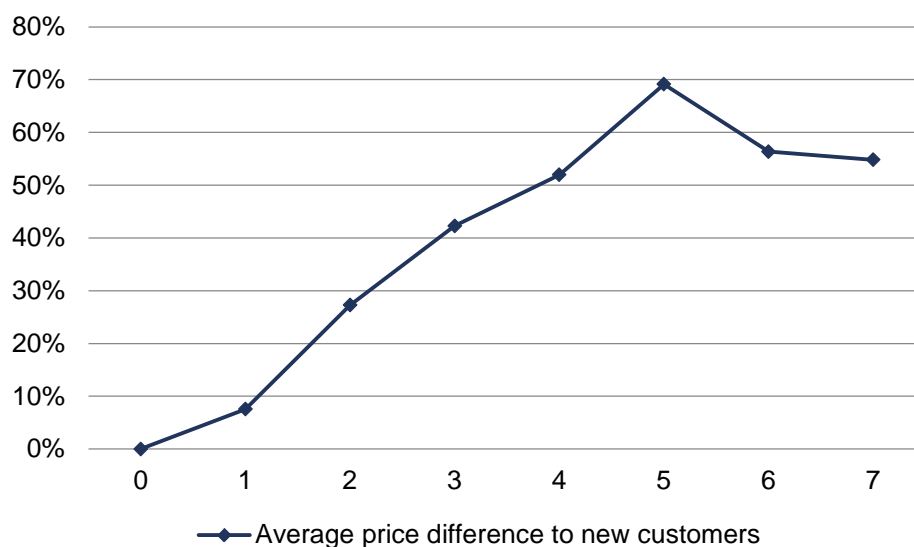
¹ Chapter 4 discusses when such segmentation may give rise to concerns.

² To help avoid inappropriate regulatory interventions in other contexts, the FCA has published a paper on the Economics for Effective Regulation, covering a wider range of issues. See Iscenko et al. (2016).

In two recent market studies, the relevant products were sold at differentiated prices. The market study on cash savings accounts found that interest rates on accounts held with the same provider for a longer period were lower than on accounts opened more recently. This is consistent with price discrimination between front-book customers who had recently switched to the provider or account and back-book consumers who had not switched accounts for a while because such a price (interest rate) difference is unlikely to reflect different costs of providing the service. (On the contrary, it may be cheaper to provide the service to long-time consumers than to those who switched recently.)³

Similarly, work on general insurance auto-renewal confirmed that, for some types of insurance, some consumers pay much higher prices if they stay with the same insurer, particularly for a long period of time. Figure 1 illustrates this effect using auto-renewal policies from three home insurance providers. For example, customers who have renewed their insurance over five years pay on average 70% more than new customers.

Figure 1: Price increase per number of renewals (home insurance)

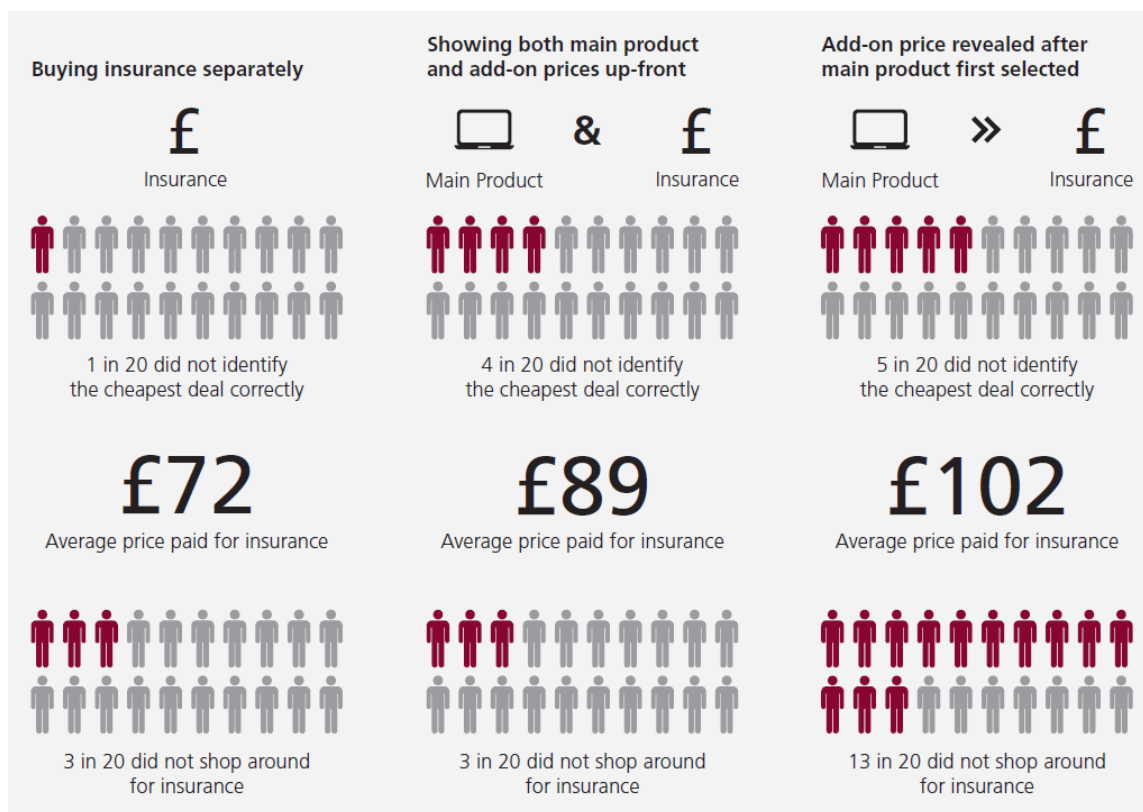


Source: Adams et al. (2015, 8)

In the market study on general insurance add-ons, the FCA concluded that the point-of-sale advantage and limited information on the availability and price of add-on insurance products led to the sale of poor value add-on products. The point of sale advantage is exacerbated because consumers buying at the point-of-sale are less likely to shop around or less effective when they do.⁴ Figure 2 illustrates the main findings.

³ See FCA (2015a).

⁴ See FCA (2014a), FCA (2015c) and Adams et al. (2015).

Figure 2: Effects of the format of add-on sales

Source: FCA [website](#).

The market study on investment and corporate banking concluded that lending is typically supplied at a low rate of return or below cost and corporate broking is provided for low or no fee in expectation of winning future mandates from the client implying cross-subsidisation among products rather than among clients. It found that cross-subsidies influence the awarding of primary market mandates and makes it more difficult to provide the services involved on a standalone basis. Given evidence on entry by banks into providing corporate broking, lending, debt issuance and M&A advice and benefits to clients from such practices, it did not conclude that there was harm to clients from a lack of competition.⁵

Last but not least, such pricing is also relevant for work by other regulators and competition authorities. The investigation of payment protection insurance (PPI) by the UK competition authority, the Competition Commission (CC), for example, looked at cross-subsidy (again, in the narrow sense) between consumers who buy different products. The CC (2009, 97) concluded that 'some segments of consumers falling within low credit score bands would be unprofitable were it not for PPI income earned within that segment. This suggests that unprotected consumers at lower credit scores may, in particular, be cross-subsidised by consumers purchasing PPI.' Other examples are the market investigation of retail banking by the CMA, which assessed whether banks discriminate between inert and active consumers.⁶

Key findings

Price discrimination is widespread in retail financial service markets, as in many other markets. In part, this reflects the characteristics of many financial services markets, such as consumer specific contracting or a strong position of firms in some or all of the market.⁷ Such a strong

⁵ See FCA (2016), in particular Chapter 7.

⁶ See CMA (2015c) and CMA (2016c). An example of price discrimination and policy intervention in markets other than those for financial services is differentiated pricing in the energy markets and its subsequent prohibition by Ofgem (which partly lapsed in 2012); see Littlechild (2014) for a description and critique.

⁷ Hence, they may have an extent of power over price or other aspects of their offer such as quality or service.

position could be due to barriers to entry resulting from fixed costs and a slow or no response to changes in the competitive offer by some consumers (consumer inertia).

Price discrimination can allow firms to cover their fixed costs while enabling more customers to buy than would be possible under uniform pricing. It also allows for more intense competition for individual consumer segments than if firms make a single offer to all of its customers.

There is no unambiguous effect of price discrimination on prices. Differentiated prices can be higher or lower, on average, than would be charged under uniform pricing and sales can also be higher or lower. Moreover, it is also possible that prices to all consumer segments are higher or lower than under uniform pricing if several competing sellers price-discriminate. For example, some argued that a prohibition of regional price discrimination in UK domestic energy markets might lead to an increase in prices for all consumers.⁸ If lower prices to some consumers expand the total demand for the good much more than high prices to other consumers reduce it, it is more likely to be beneficial. This might apply, for example, if advantageous terms of personal current accounts (PCAs) offered to youths and students mean that many more of them open such accounts.

Price discrimination can be present in markets where few or many firms compete. Its presence alone is an indication of some market power, but does not tell us much about whether competition leads to good outcomes for consumers. However, price discrimination and below-cost pricing can sometimes exclude actual and potential rivals and hence reduce competition, especially when used by firms with a strong market position. For example, in 2009, Clearstream (a provider of clearing, settlement and custody services in relation to securities) was found to have abused its dominant market position by applying discriminatory prices to one of its customers, Euroclear Bank SA, thus placing it at a competitive disadvantage.⁹

Cross-subsidy often arises from ‘loss leading’, where a core product is offered below cost because a firm expects to make additional sales of related products at above cost prices. Some consumers may be able to take advantage of the loss leader and avoid the higher price products and consequently be cross subsidised by others buying the additional sales. Whether this is sustainable depends on the proportion of sophisticated customers willing and able to exploit the price differences and how firms respond. When a consumer segment is offered below cost, prices both competition and efficiency¹⁰ concerns can arise.

An assessment of whether price discrimination or cross-subsidy is a concern has to consider the overall effects and the context provided by the specific market: are material market failures (other than market power) in play? Are the consumers in the relevant market especially vulnerable? An example for a policy response to vulnerability concerns was Ofgem’s prohibition of non-cost-reflective price differentials between different payment methods. Vulnerable consumers were more likely to pay by standard credit – which had a higher mark-up – or through pre-payment meters than by direct debit.¹¹ Mandated provision of basic bank accounts – which may not cover their costs – also addresses ‘vulnerability’ by reducing financial and social exclusion.

The assessment also needs to consider: whether the number of winners (and the size of their gains) is greater than the number of losers (and the size of their losses and whether they affect ‘vulnerable’ consumers¹²); the number of consumers who would gain because they would not buy

⁸ See Hviid, Waddams Price (2012), the discussion on p.18 and the case study on p.36 for details.

⁹ Decision by the European Commission, [Case COMP/38.096](#) — Clearstream, upheld by the Court of First Instance, Case [T-301/04](#).

¹⁰ Allocative efficiency is achieved if the price of the product is equal to the cost incurred when producing the last unit (or marginal cost). If the price is higher than this cost, some consumers whose valuation of the product is above marginal cost of producing it would buy it and enjoy a benefit if the price was lower. If the price is lower than this cost, some consumers who value the product less than it costs to produce it may buy it. Hence, prices above or below marginal cost reduce allocative efficiency.

¹¹ Ofgem expected this to ‘...have significant benefits for many vulnerable consumers in the form of lower prices...’ and said it had ‘...attached particular weight to this consideration.’ See Ofgem (2009a, 4 and 11) and Ofgem (2009b, 6 and 8). The policy was in line with European Community directives. The CMA concluded in their energy market investigation that rules limiting price discrimination should be withdrawn, but that a temporary price cap for domestic customers on prepayment meters was required until these are replaced by smart meters (CMA 2016b, 646 and 653).

¹² Reasons why consumers may be in need of protection are discussed in Coppack at al. (2015).

at the uniform price but do buy at differentiated prices; and the economic profits firms gain.¹³ Moreover, such an assessment needs to consider the market position of the firms using such pricing, and whether this pricing excludes competitors. Ofgem's assessment of the impacts of its policy to address price discrimination in domestic energy markets discusses these factors (see Ofgem, 2009b).

General predictions about the effects of such pricing are not possible without detailed knowledge: in particular, of the competitive dynamics, the size of the different consumer segments, and their sensitivity to price. Assessing whether pricing practices are harmful to consumers and competition requires detailed data and considerable resources, but is important for judging whether an intervention is required to protect consumers or improve competition in the market.

Assessing the form of pricing and the way it is described and marketed to consumers, rather than the effects can be misleading. In particular, consumer perceptions of the fairness of a pricing practice have been shown to be susceptible to its framing. The same pricing schedule when characterised as offering a discount to one group, and deemed as fair by most consumers, can be deemed unfair when instead characterised as a surcharge or premium to another group.¹⁴

Implications for policymakers

Concerns about cross-subsidising may arise when a group of consumers is targeted with below-cost prices. Below-cost pricing can be inefficient, where it encourages excessive use of a service by consumers¹⁵, and can be detrimental to competition, where it deters entry or is used to drive rivals from the market. In the same way, price discrimination can exclude rivals. However, many apparent cases of cross-subsidy and price discrimination do not raise these concerns. Economic theory suggests that either type of pricing – whether used for promotional pricing (possibly only to some consumer groups), price discovery, or to increase market share – is more likely to lead to exclusion of rivals or other competition problems if the firms using such pricing have a stronger position in the market.

When we identify areas where either type of pricing is a concern, the most appropriate intervention may be to address the market characteristic or consumer behaviour that leads to such pricing, rather than to directly unravel the cross-subsidy by mandating cost-reflective pricing.

Regulatory interventions that address the cause of the problem may be more successful, and may have fewer unintended consequences, than those which address symptoms. Badly designed or inappropriate regulatory interventions can lead to undesired or unintended consequences for consumers and competition.

While a ban on price discrimination or price cap could be appropriate in certain cases, regulatory interventions that stop short of direct setting or capping of prices appear to have had positive impacts in addressing problems arising from price discrimination. An example is the U.S. CARD Act, which limited payments on fees and charges for credit card use apparently without causing a corresponding increase in other fees, according to an evaluation study (see p.33 for details).¹⁶

The FCA imposed a price cap in the high-cost, short-term credit ('payday lending') market, responding to Parliament giving it a duty to secure an appropriate degree of protection for borrowers against excessive charges in this market.¹⁷ In this case, an interventionist policy appeared appropriate since no 'soft' intervention alone would have sufficiently improved consumers' ability to make informed choices and secured an appropriate degree of protection for borrowers against excessive charges. It was clear that this would terminate supply to certain consumers, but also that loss of access was beneficial in preventing consumer harm: the interest

¹³ Economic profits means here profits in excess of the level of profits needed to cover the cost of capital.

¹⁴ See discussion of fairness in Chapter [4].

¹⁵ For example, it can be inefficient because consumers whose valuation of the product is below the cost of supplying it may buy the product (because their valuation is still above the price).

¹⁶ See Agarwal et al. (2015).

¹⁷ Details on the cap on high-cost short-term credit can be found on the [FCA website](#).

rate was eye-wateringly high and firms lent so irresponsibly that 60% of first-time borrowers defaulted, incurring massive charges and damage to their credit record. Direct regulation of prices in response to concerns raised by price discrimination raises considerable risks of stifling competition and unintended consequences; as such, it is only likely to be appropriate in rare circumstances.

2 The forms of price discrimination and cross-subsidy

Price discrimination and cross-subsidy are terms that cover a wide variety of pricing practices. Here we discuss the range of pricing practices falling into these categories, highlighting areas of particular interest to the FCA.

Price discrimination

What is price discrimination?

Price discrimination usually occurs when a firm charges different prices to different consumers for the same product, reflecting differences in their sensitivity to the price of the product, where the price differences cannot be explained by differences in the costs of supplying the product.

Price discrimination also covers situations where all consumers are charged the same price but costs differ between consumers, so that different consumers face different mark-ups.

Price discrimination can therefore be defined generally as pricing that leads to **different mark-ups over cost for different consumers**.¹⁸

Price discrimination *does not cover* situations where price differences are exclusively driven by differences in the cost of supplying different consumers including different risk profiles. (In this case the mark-ups are identical for all consumers.)

Conditions for price discrimination

For price discrimination to be feasible:

- Consumers must differ in their valuations for the product, hence their sensitivity to its price. Or, if the same price is charged to all consumers, the firms' cost of supplying them must differ, or both. The firms offering the product also need to be aware of these differences.
- Firms must also have some power over price, so that they can mark up price, or at least some component of price, above economic cost.
- Consumers must be unable to circumvent the differentiated prices. This means that consumers cannot engage in resale, and cannot obtain the prices intended for a different consumer group – or at least it is sufficiently costly to do so that price discrimination is still worthwhile.

¹⁸ The mark-up is the difference between price and cost of supplying the product. This can be expressed as the absolute difference or proportional difference. By cost we refer to direct economic costs associated with supplying a consumer, sometimes referred to as incremental or marginal costs. Economic costs will include the appropriate cost of capital employed. Philips (1983, 6) proposes this mark-up as the criterion to define price discrimination. Notable authors have adopted that definition, e.g. Tirole (1988, 134) and Norman (1999, xi). In contrast, Stigler (1966, 209) proposed to use differing ratios of the price to the cost of supplying the last unit as the criterion. Details of the definition do not play a significant role in the discussion in this paper.

Typology of price discrimination

Economists customarily distinguish three types of price discrimination, as illustrated in Figure 3. These types depend on the information available to the firm about consumers and how this is used to differentiate prices.

Where a firm has some knowledge of each consumer's willingness to pay for the product, and can charge a distinct price to each consumer, pricing is personalised. In the theoretical model where a consumer's valuation is known exactly, this is called **first degree price discrimination** (also known as 'perfect price discrimination'). However, with increasing availability of detailed data on consumer characteristics and purchasing behaviour (Big Data), firms are able to refine their prices to more accurately reflect the value a given consumer places on the product – theory is coming closer to reality.¹⁹

Sales under personalised pricing can be efficient, as the firm has the ability and incentive to set a price to each consumer, such that the consumer buys the product as long as they are willing to pay more than cost. However, the prices charged, and economic profit to the firm, may be very high. If several suppliers have the required information, then competition for individual consumers could drive prices towards costs. However, one firm may have privileged access to relevant data, or the data are very expensive to acquire or analyse so only a small number of suppliers are able to price in that way. Limited ability of some competitors to engage in personalised pricing may limit other firms' ability to do so, since even consumers with a low sensitivity to price may be able to buy at a lower price from less sophisticated rivals.

Greater availability of data on each consumer's sensitivity to price – including availability to a larger number of firms in the market – tends to lead to a higher price for consumers, while greater competition tends to counter this effect. This highlights the importance that brokers who gather substantial amounts of information on an individual search the market and offer unconflicted advice – thus ensuring the consumer a competitive deal rather than a personalised high price.

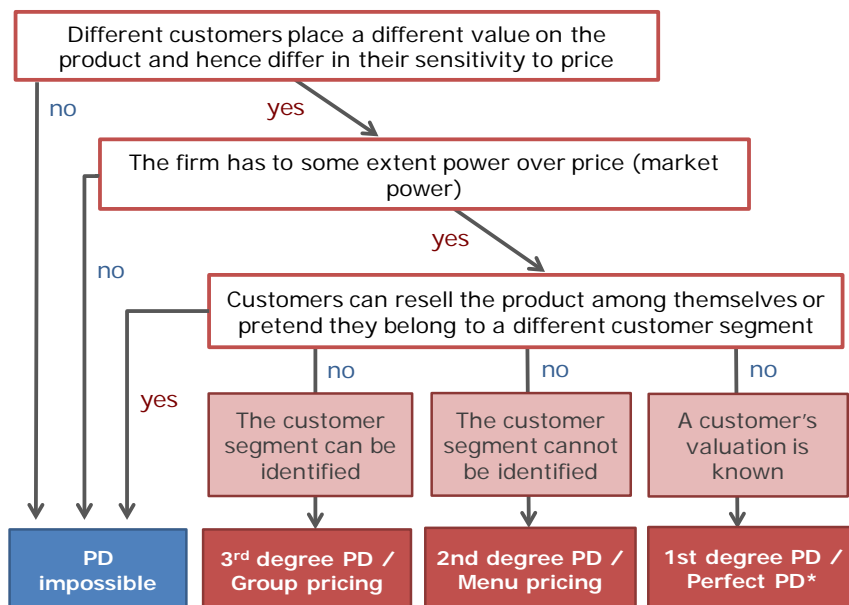
Often, a firm will be aware that there are differences in consumers' preferences and willingness to pay, but the firm cannot identify which consumer is of which type because it has limited information about consumers. Therefore, a firm will offer a range of different pricing options or slightly different product variants to induce consumers to reveal information about their willingness to pay through their choices. Such pricing is known as **second-degree price discrimination**.

In this situation, all prices are available to each consumer, but the price a consumer pays depends on the option chosen as well as usage. For example, a firm may offer a range of mortgages with different combinations of upfront fee and interest rate – the effective mark-up paid will vary according to the combination that the consumer chooses as well as the size of the mortgage. Second-degree price discrimination can take a wide variety of different forms.²⁰

A firm may also use information about consumers (such as age, occupation/student status/retiree or address) as proxy of their type, and segment consumers accordingly, charging different prices to different consumer groups based on these observed characteristics. This is termed **third-degree price discrimination** (also known as *group pricing*).

¹⁹ The FCA's [Big Data project](#) is looking at the effect of Big Data in more detail.

²⁰ We exclude from this paper price discrimination through bundling and tying, which are also ways to implement second-degree price discrimination.

Figure 3: Types of price discrimination and preconditions

Graph by the authors; *PD: price discrimination. Such market power is a matter of degree and does not always imply a dominant position or a monopoly.

Any particular pricing practices observed in a market may combine elements of these different types of price discrimination. For example, a current account may contain a range of different charges based on which elements of the bank account the consumer chooses to use or premium accounts offered to high-income individuals (second-degree price discrimination). However, the tariff of charges may be different for current accounts aimed at different consumer groups, such as student accounts (third-degree price discrimination).

There are many different ways to characterise pricing practices: it may be obvious from cursory examination of a pricing practice that it involves price discrimination, or this may only emerge as a result of careful observation of the costs and prices. In general, it will be necessary to undertake examination of the underlying effects of a practice; the precise form of the pricing is less important.

Price discrimination occurs when the *same* supplier charges different prices to different consumers for its product (which are not driven by differences in costs/risks). This clear-cut distinction blurs when a supplier offers multiple products or brands. For example an insurance company could distribute the same policy under different brands aimed at different consumer groups and charge different prices. This may appear to be – at least to a consumer who is unaware that the different brands are the same firm – quite different to a firm charging different prices to different consumers for the same branded product. The overall effect on the market may nevertheless be very similar.

To consider the implications of such price discrimination, it is helpful to review the reasons why a consumer group may be more or less sensitive to price.

- A group of consumers with higher income or wealth may exhibit a lower sensitivity to price. They may see the value of switching suppliers to achieve small savings (relative to their income or wealth) as less important, and may have a greater implied cost of their time spent shopping around.
- A consumer group may prefer to stick with a particular supplier despite price differences with other suppliers.

- One group of consumers may have fewer actual or perceived alternative options. Users of consumer credit with a higher risk profile may have fewer suppliers willing to offer credit, so those consumers may be less able to switch to alternative suppliers of credit if interest rates or charges are increased. Even if a number of alternative suppliers exist, if a consumer perceives that he or she would not be offered credit by other suppliers, then the consumer would be less likely to try to switch if the price increases. Similar considerations would apply to consumers of insurance with a past record of making claims.
- A consumer group may be more susceptible to cognitive biases, be less ‘savvy’ about the way that the market operates, or (for other reasons) be less aware of or have less understanding of how pricing works. If some consumers are less aware of prices in the market or of components of the price, then they will not respond to the same degree to price changes.

Consumers may be less ‘savvy’ in different ways and sometimes in several ways. They may not have clarity regarding their future needs, and may therefore choose unsuitable insurance, savings or mortgage products, or even postpone a decision. If firms use complex pricing or complex terms, then if the costs accrue over time or the costs are hidden and consist in the loss of a possible gain, consumers may be unable to assess the cost of the product or the risks involved. In such situations, advice from the bank or building society providing the product may alleviate these problems to some extent, and advice from agents with well-aligned incentives will likely be helpful. Examples include: complex pricing of credit cards consisting of a fixed annual fee (or an upfront inducement, which is effectively a negative fee) and possibly various interest rates on the balance in debit, depending on whether it results from a purchase or an ATM withdrawal: and additional charges (such as for ATM withdrawals or purchases in other currencies) or trading off loss of interest against potential penalties for early withdrawal on some savings products.

Cross-subsidy

What is cross-subsidy?

We focus on cross-subsidy as defined by most economists: namely, that a firm charges a price below economic cost (i.e. is loss making) for some consumer groups or products, but recoups this loss through profitable sales of another product or of the same product to another consumer segment. (We use below cost pricing as short-hand for pricing below economic cost in this paper.)

One type of **cross-subsidy is between consumers** – one subset of consumers is charged below the cost of providing the product, which is paid for by the firm charging another subset of consumers above the cost price.

Another type of **cross-subsidy is between products**, whereby a firm’s economic profits from one product are used to provide another product at a loss.

Cross-subsidy is often used more loosely to refer to the distributional consequences of price discrimination, in the sense that consumers who are charged high mark-ups may be considered to subsidise those who pay lower mark-ups.

Within a consumer group, individual consumers may turn out to be loss making by chance; for example, a consumer who defaults on a loan, or a consumer who makes a substantial insurance claim, will prove to be individually loss making. It is when a consumer group that can be identified up front as loss making on average is offered below-cost prices that competition and efficiency concerns arise. We focus here on such ‘up-front’ cross-subsidy.

A way in which cross-subsidy between products may arise is where firms implement so-called 'loss-leading' strategies. In this case, the initially purchased product is sold at a loss and other products are sold profitably 'off the back of it'. This usually occurs because the demand for products or services is interrelated. Examples are consumers who prefer to have savings accounts with the provider of their personal current account or who buy additional insurance covers with their main policy. In wholesale markets, corporate broking and lending, for example, are at times offered at a loss to cross-sell transactional services, such as bond or equity issues.²¹ As discussed in more detail under potential concerns, firms might also use such pricing to preserve their position in the market (see Chapter 4 for details).

Cross-subsidy between consumers

PCAs provide an example of cross-subsidy between consumers.

Personal Current Accounts (PCAs)

In the UK market, 'Free If In Credit' PCAs, whereby consumers do not pay a monthly/annual fee or charge for their bank account, are pervasive. However, banks must somehow cover the costs to provide these, such as through (often high) overdraft charges and other ancillary charges, or by paying low interest on balances in credit.²² These charges and low interest rates are avoidable for certain segments of consumers, with the resulting concern that those consumers who incur the high overdraft charges or other ancillary charges, or who have a high balance, may be cross-subsiding those consumers who avoid such charges or loss of interest, which may allow firms to provide PCAs to such consumers at a loss.

The FCA's Financial Services Consumer Panel highlights that there may be a 'diligence cross-subsidy': that those consumers who do not shop around for a PCA cross-subsidise those who do. (The Consumer Panel's definition of 'cross-subsidy' here may differ from ours, and may not refer to some consumers being provided with a PCA below cost.)²³

Access concerns and mandated cross-subsidy

In some regulated sectors, universal service obligations are placed on providers. These require that, for example, people living in rural areas receive telephony services at the same price as those in urban areas even when it may be costlier, and indeed loss making, to supply some of those rural areas. In financial markets, for example, they require that any consumer be provided with a basic bank account regardless of their financial situation or credit history, so that some of these accounts may not cover their costs.²⁴ Such examples are motivated by a desire to maintain access for all consumers to certain key services. They often create a deliberate cross-subsidy from people who have a low cost of provision to those who have a high cost of provision.

Examples of such cross-subsidy in financial services are rare. The most prominent proposed example is the Flood Re scheme discussed in Chapter 5, which provides for a levy to cap the costs of home insurance in flood-prone areas, likely implying that some consumers can buy such insurance at a price below the (expected) cost of supplying it to them.

Cross-subsidy between products

This type of cross-subsidy is observed across many markets, including financial services.²⁵ The pricing of PPI is an example of such cross-subsidy in financial services, as described below.

²¹ FCA (2016), Chapter 7, in particular pp.133–36.

²² We recognise that these could also be seen as charges for add-on services to a PCA. Such cases are hence very similar to cross-subsidisation between products discussed below.

²³ See FSCP (2014). It is also notable that the CMA has considered the degree of consumer engagement and cross-subsidisation as part of their investigation of how well competition is working in the retail banking market. See CMA (2016c).

²⁴ See the [FCA website](#) for details.

²⁵ For example, in the UK grocery market, the CMA noted that most large retailers in the UK use 'loss leading' practices, which can represent up to 3% of a retailer's total sales. See Competition Commission (2008, A5(6)-1).

Payment Protection Insurance (PPI)

PPI provides accident, sickness and/or unemployment insurance, and is used to protect the loan payments of policyholders if they lose their income. A super-complaint by Citizens Advice about PPI mis-selling eventually led to a market investigation by the CC. The CC concluded that some consumers with low credit scores would be unprofitable were it not for PPI income and that consumers with low credit scores who did not buy PPI may hence be cross-subsidised by PPI sales. In 2009, the CC prohibited the joint sale of credit or PPI with unsecured lending from 2010.²⁶ A factor in this judgement was the assumption that PPI was used to cross-subsidise credit – in particular, in the personal loans market.^{27 28}

There were important general welfare²⁹ effects from this cross-subsidy, with the CC concluding that the estimated total welfare loss from PPI sales due to inefficiencies associated with high PPI prices and low credit prices was at least £200 million a year, and possibly higher. Customers spent £4,408 million a year on PPI in total.³⁰ Further detriment might have resulted from consumers with a low likelihood of making a claim not buying PPI policies at the prevailing high prices (i.e. from ‘adverse selection’), as well as from any distress or inconvenience that the mis-selling has caused.

The relationship between pricing practices

Relationship between price discrimination and cross-subsidy

Price discrimination implies different mark-ups for different consumers. Those mark-ups contribute to covering the fixed costs (including the fixed part of common costs) or to firms’ economic profits. Consumers paying high mark-ups make larger ‘contributions’ and may be considered to ‘subsidise’ those that pay lower mark-ups. Here, the term ‘subsidy’ is used in a loose way to refer to the distributional effect of price discrimination, while prices are above economic cost. Such ‘subsidy’ could be seen as a natural consequence of price discrimination. However, there is no causal link between the prices. While in some situations, a firm may adjust the price to one customer group if it changes the price to another consumer group³¹, there is no automatic link between the prices arising from price discrimination.

Our focus on cross-subsidy, where one price is below cost and another is above cost, results from the link created between those prices. If a firm chooses to set a price below cost for some customers, then it must be able to compensate by charging other customers above cost to avoid a loss.

We adopt the economic definition of cross-subsidy rather than the more general usage, because it avoids confusion from using a single term for two different phenomena (the distributional effects of price discrimination and the ‘link’ between prices created by cross-subsidy). Analysis of the effects of these pricing practices is considered in the next chapter.

²⁶ Competition Commission (2009, 13).

²⁷ Competition Commission (2009, para. 4.89): ‘This evidence, in conjunction with the evidence on declining profitability and, in some cases, losses on personal loans, leads us to conclude that prices for personal loans have been distorted, to some extent, by the ability of distributors to anticipate PPI income on those loans.’

²⁸ According to a study by the FCA, the most commonly sold types of PPI were single premium policies on unsecured loans (around 48% of all PPI policies sold), credit card PPI (around 36%), and regular premium policies on loans or mortgages (around 15%). See FCA (2014b, 7).

²⁹ Total welfare is the sum of the benefits for all consumers concerned (also called total consumer surplus) and the economic profits gained by firms. Economic profits are profits in excess of the level of profits needed to cover the cost of capital.

³⁰ Competition Commission (2009, 13 and 25).

³¹ For example, in situations where the adoption of a product depends on who else buys it because of a bandwagon effect or snob effect.

3 Analysis of price discrimination and cross-subsidy

In this chapter, we discuss types of such pricing that are particularly relevant for financial services and their implications for the prices charged to different consumer segments.

Analysis of price discrimination

In this section, we analyse various characteristics of price discrimination in different circumstances.

The relative prices charged to different consumer groups under price discrimination depend on a number of factors:

- The different valuations of the product within the consumer group.
- The brand loyalty, and propensity to switch, of that consumer group (i.e. their sensitivity to price).
- The relative size of the consumer groups.
- The effectiveness of a firm in accurately segmenting different consumer groups.

Consumer groups with a low sensitivity to price will typically be charged a higher mark-up than those groups with a high sensitivity to price. The low-sensitivity group will make a larger contribution to covering the fixed costs (including fixed common costs) than the high-sensitivity group.

So if a firm *can segment consumers according to their price sensitivity based on proxies*, such as information from past purchase decisions or characteristics like age or employment status, it may find it optimal to mark up its price to each segment inversely to the price sensitivity of the consumers in that segment. Consumers with a high sensitivity to price are hence charged a low price, while those with a low sensitivity to price are charged a high price.

If firms using such price discrimination compete in the market, possible differences in how they view the price sensitivity of different consumer groups matter. If differences in price sensitivity between consumer groups are largely driven by income differences, firms are likely to have the same views on the price sensitivity of consumers in the different segments. An example is advantageous offers of current accounts or savings accounts to younger customers that are offered by most suppliers in the market.

If differences relate to a preference for a particular supplier or to an unwillingness to switch (because consumers underestimate the benefit or overestimate the costs of switching), then a consumer group may be seen as loyal to its existing supplier and therefore considered to be a price insensitive group for that firm. However, a rival firm might see that group as a price-sensitive group of consumers compared to its own existing customers. This can result in firms offering very good deals to new customers – in effect, and sometimes literally, paying consumers to switch. An example is cash savings accounts where existing customers (the ‘back-book’) are, on average, less sensitive to the ‘price’ (the interest rate offered) than new customers (the ‘front-book’). The situation here is asymmetric since one firm’s back-book customers are another firm’s potential new customers (front-book customers).

A firm's price does not only depend on how likely consumers are not to buy the product in case of a price increase (for example, how much a group of consumers value insurance above the cost of provision), but also on how likely they are to buy the product from a rival (how loyal or not they are to one insurance provider instead of another). A firm's price is hence inversely related to the consumers' overall sensitivity to the market price and the rival's price.³² Competition is beneficial for consumers since the price charged to each consumer segment falls compared to the price set by a monopolist.

If one group of consumers values insurance cover highly, but is not very loyal to their provider, their high sensitivity to the rival's price may mean that firms will charge a low price to that consumer group. Hence, it need not be true that the higher price is charged to the consumer segment with the lower sensitivity to the market price of the product, or value the product the most.

If firms have a large proportion of existing customers relative to the available new customers, the firm might, under uniform pricing to new and existing customers, charge a relatively high price because the profit from charging a high price to existing customers outweighs the profit from competing to attract new customers. Under price discrimination, the firm could offer a low price to new customers joining from a rival firm – and offer a higher price to its existing customers. However, its rivals will also price discriminate and target the firm's existing customers with a low price. The firm has to respond to protect its existing customers and the effect can be that when firms price discriminate, **prices to both new and existing customers fall** compared to competition under uniform prices. Products sold to an established customer base as well as rate-chasing switchers, such as motor and travel insurance or cash savings, may give rise to such a situation if the established customer base is large.

It could also work the other way. There are, in theory, situations where **prices to both customer groups rise**, relative to competition with uniform prices. However, considering the pattern of consumer preferences driving such pricing, this appears unlikely to be a widespread phenomenon.³³

If competing *firms cannot identify the consumer segment an individual belongs to*, more complex but common pricing methods can be used to induce consumers to reveal through their choice to which segment they belong. To that end, firms may offer a choice of tariffs where each consists of an upfront fee and a price per unit, and other types of volume discounts. Mortgages, for example, are offered for different fixed fees and interest rates. The analysis of such pricing is contingent on the details of the specification of demand, so there are no general conclusions that can be drawn from this literature.

Unfortunately studies of such cases often rely on strong assumptions and the literature recognises these limitations. Stole (2007: 2292), for example, concludes that it may 'at times ... be frustrating that truly robust theoretical predictions are a rarity due to the additional effects of imperfect competition on our classic price-discrimination theories.'^{34,35} However, these studies yield important insights for regulatory policy because they demonstrate that in the presence of price discrimination, competition can lead to higher or lower prices for all consumer segments than in absence of price discrimination (as the discussion in this section showed).

Academic studies demonstrate that price discrimination may sometimes lead to greater benefits than uniform pricing (above cost) and also that the effects of such pricing depend on the joint effect of a number of factors. These include the size of the different consumer segments charged differential prices or buying the cross-subsidised and subsidising products, consumers' sensitivity to the price of a given firm, the prices of its rivals and costs of effort of shopping around or

³² More technically, it is inversely related to the market price elasticity and the cross-price elasticity.

³³ See Corts (1998). This can occur if a firm has a large proportion of very price-sensitive customers that rivals consider not very price-sensitive.

³⁴ Similarly, Armstrong (2006, 111, fn 30) notes that no general rules that can be drawn for policy from this literature.

³⁵ In addition, the usefulness of results from the economic literature is severely limited by the fact that they often cover only markets with one or two firms, or are applicable only if certain quite restrictive assumptions apply.

understanding pricing structures. When considering markets in which price discrimination plays a part, regulators need to consider the specific facts very carefully before deciding whether any intervention is warranted.

Analysis of cross-subsidy

In this section, we analyse various characteristics of cross-subsidy in different circumstances. We observe where it may give rise to regulatory concerns and where it may not. We also consider situations where firms' profit-maximising pricing leads to cross-subsidies and to price discrimination. We focus on the most relevant situations and possible applications in retail financial markets.

Add-on pricing

One area of financial services where cross-subsidy may be relevant is General Insurance Add-ons (FCA, 2014a). Insurance cover sold standalone, rather than as an add-on at point of sale of the primary product, was found to be cheaper.³⁶ Some consumers can avoid buying high-priced add-ons and only buy the main product. Competition may force overall profit from sale of add-on and the main product to nil. If so, the main product could be sold below cost, resulting in cross-subsidy between add-on buyers and consumers who only buy the main product.³⁷

Gabaix and Laibson (2006) model the effects of competition of firms selling a product and an add-on to 'savvy' and 'non-savvy' consumers.³⁸ They examine whether firms have an incentive to 'shroud' the price of an add-on product (perhaps because some consumers fail to anticipate the high price of an add-on). They note that, where a fraction of consumers is unaware of the add-on or subsequent price, there is an incentive to increase the price of the add-on. In a competitive market, the overall price will be driven to cost – and the upfront price is driven down as a result. Again, if the upfront price goes below cost, this implies cross-subsidy. Moreover, if add-on prices are shrouded and more customers become informed and substitute away from the high-price add-on, welfare is reduced because they have to exert effort to do so.

There are a number of effects of such pricing to consider. First, some people are deterred from buying the add-on by the high price. Second, if the upfront price is below cost, there may be excessive consumption of that product.³⁹ Third, some sophisticated consumers will expend effort to avoid high priced add-ons: for example, by buying equivalent standalone products. Fourth, there is redistribution from 'non-savvy' consumers to 'savvy' consumers, since the latter benefit from a lower price on the primary product.

Contingent charges

A similar situation arises if consumers face contingent charges for certain types of services related to a product and are practically unaware of them until they incur them. Such services are very similar to add-ons since they are only paid for if they are used. For some financial products, such as current accounts or credit card accounts, consumers find some aspects of the charging structure particularly salient (for example, the introductory interest rate on a credit card). Other aspects, such as foreign exchange fees, are less salient at the time the consumer makes their purchase decision. Sophisticated consumers who are aware of and understand the pricing structure may use their card or account in such a way as to ensure that they get a better deal from the account than unsophisticated or naive consumers. Such sophisticated consumers may

³⁶ In addition, the market study found that such standalone products could be poor value.

³⁷ The market study did not establish whether any products were being sold below cost, and so did not conclude on the existence of cross-subsidy.

³⁸ Ellison (2005) discusses a similar situation to the one considered by Gabaix and Laibson (2006), but analyses high costs of shopping for add-on prices as a reason why firms may charge high-demand consumers more than low-demand consumers.

³⁹ Gabaix and Laibson (2006) focus on the third effect. In their model, the first two do not apply because of assumptions about consumer demand.

be rare. Other examples from UK retail financial markets include charges for unpaid debt in mortgage contracts and charges for unauthorised overdrafts of personal current accounts.⁴⁰

If this contingent fee were very high, then a consumer who was aware of the fee might devote more effort than is efficient to avoiding such fees. While it may be efficient for a consumer to take appropriate care to ensure a payment can be made on the due date, excessively high mark-ups can lead to excessive caution and care on the part of the borrower, relative to the cost of a late payment.⁴¹ In general, such activity to avoid high mark-ups is costly to consumers and is therefore a relevant effect to consider. One lesson from analysis of such markets is that measures that lower the cost to consumers of avoiding the contingent charges may improve market effectiveness, both lowering the costs to the sophisticated and making it easier for the naive to become sophisticated in their behaviour.

So when setting contingent charges or prices for add-ons, firms choose pricing structures that reflect the different proportions of sophisticated and naive consumers. The sophisticated may receive a good deal – perhaps even below cost if competition to acquire new consumers is intense – while the naive will pay more. A key cost associated with pricing structures that exploit naivety on the part of some customers is the inefficiencies created for the sophisticated customers: for example, because they have to adapt how they use their accounts in potentially inefficient ways to avoid the high contingent charges.

Armstrong and Vickers (2012) study the economics of unauthorised overdraft charges using a model in which there are ‘savvy’ customers (who are well-informed, diligent and aware of the overdraft charges) and ‘non-savvy’ (who do not consider the risk of inadvertently incurring the overdraft charges).

The authors show that the proportion of customers of each type matters. Where there are not enough ‘savvy’ consumers, the presence of these two consumer types can result in the ‘sophisticated’ benefiting at the expense of the ‘non-savvy’, since only the ‘non-savvy’ will incur the overdraft charges, which helps to fund the ‘Free If In Credit’ banking enjoyed by the ‘savvy’ consumers. This is another case of cross-subsidy from the ‘non-savvy’ to the ‘savvy’.

However, if there are enough ‘savvy’ consumers (for example, a large number of consumers who avoid the overdraft charges), it can place downward pressure on the charges because few consumers would choose an account with a high overdraft charge. Hence the ‘non-savvy’ consumers benefit. So it is not always the case that the ‘savvy’ benefit at the expense of the ‘non-savvy’ – the ‘non-savvy’ can also benefit from the presence of more ‘savvy’ customers.

A ‘mixed’ case: Front-book and back-book

In financial services, some firms offer introductory deals to new customers: the ‘front-book’. The ‘back-book’ consists of the established customer base and is offered less favourable conditions, such as higher prices or lower interest rates. This may be explicit (for example, by offering a bonus interest rate for a fixed period), or it may be unstated (for example, if new insurance customers are systematically offered lower prices than renewal customers).⁴²

Analysis

Since ‘active’ or ‘savvy’ consumers will switch when the ‘deal’ deteriorates, such front-book/back-book pricing allows firms to ‘screen’ consumers into ‘inert’ and ‘active’ or ‘non-savvy’ and ‘savvy’ segments. Moreover, firms may use the (economic) profits gained on sales to more inert back-book customers to attract more active front-book customers, potentially by offering prices below

⁴⁰ See Armstrong and Vickers (2012) for details.

⁴¹ See Gabaix and Laibson (2006) and Armstrong and Vickers (2012) for examples of papers where existence and the magnitude of these effects influence the desirability of such pricing.

⁴² If very high returns are made on the back-book, the implied front-book price that would lead offset economic profits on the back-book, may be a negative price. Charging negative prices typically presents practical difficulties and can only to some extent be achieved, e.g. through cashbacks. Therefore, there may well be a practical price floor, below which a firm will not charge to avoid such difficulties.

cost to new customers. If competition is strong, the price to the front-book may be reduced to such an extent that overall firms make no economic profit and the sales to all new and existing customers are just expected to cover costs.

By discounting prices, a firm can affect the composition of the cohort of new customers. For example, an aggressively low price to new customers may disproportionately attract active consumers who do not become part of the back-book. A firm able to earn high returns on its back-book may therefore not lower the price to an extent that offsets those high returns. In insurance markets, a lower price to new customers may attract higher-risk consumers.

The FCA's recent market study on cash savings (FCA 2015a), for example, showed that providers of cash-saving products use pricing strategies consistent with such 'screening'. Providers often had a wide range of products on their books, as new products were frequently introduced, some offering bonus rates for an introductory period and others offering variable interest rates, while older products were withdrawn from sale or were no longer marketed to new customers. Similarly, the CMA investigated the effects of an inert consumer base in the retail banking market (see CMA, 2016c, 217/8). Pricing of annual insurance policies, including strategies like automatic renewal, offers an opportunity to screen for inert/'non-savvy' consumers by increasing the price at renewal. 'Savvy' consumers will attempt to avoid such an increase by switching or negotiating with the insurer. The above conclusions are in line, for example, with the FCA's work on general insurance auto-renewal.⁴³

Moreover, in general insurance markets, the prices charged to new and renewing customers varies substantially between firms and between products. Some firms charge higher prices on renewal, and subsequently increase prices at further renewal. Other firms appear to offer very similar prices to all renewal customers. For those firms that do increase prices to renewal customers, the rates at which such prices are increased vary between firms. The variety of pricing approaches adopted is likely to reflect the different customer bases that each firm and product attracts. For example, different firms have different ratios of active to inactive customers. Some firms have active customers who are more likely to renegotiate than switch, and vice versa.

Implications

'Front-book/back-book' pricing is a good example of why firms may differ in their views on the price sensitivity of consumers in a given segment. Since consumers who are current or prospective switchers for one firm ('front-book') will likely be part of the established customer base ('back-book') of another firm, firms may differ in their assessment of the price sensitivity of a given customer segment. The resulting price schedule will therefore depend on the details of the situation – in particular, the proportion of active and savvy consumers faced by firms. This also applies for the extent of redistribution between consumer segments: this being determined by the price differentials relative to the uniform price for different consumer segments.

Even if a firm wished to avoid price-discriminating between front and back-book because avoidance would allow for higher profits, competition by other price-discriminating firms may make this impossible.⁴⁴ It may be necessary to charge low prices to attract new customers if other firms do the same. Whether this applies depends on the details of the situation.

Such pricing structures are not necessarily evidence of weak competition overall and may indeed involve relatively intense competition to attract new customers, even forcing prices to these customers below cost in some cases. Economic profits earned on the back-book may be competed away by offering lower prices to the front-book in some, although not necessarily in all cases.

⁴³ The FCA has considered the information provided to insurance consumers at renewal and published findings in December 2015, see FCA (2015c) and Adams et al. (2015).

⁴⁴ It may also make it impossible for a firm to commit to offering unilaterally a certain price for a longer period, which may be advantageous for consumers who incur a high cost (or effort) when shopping around. For insurance products, this would also be infeasible because the risk attached to a policy may change during that period.

Overall, it is important for regulators to examine the specifics of cases of cross-subsidy and to understand the business models leading to it to see whether any intervention is warranted to avoid intervening against pricing which is beneficial for consumers.

4 Framework for assessment

This chapter sets out the core framework for the assessment of price discrimination and cross-subsidy. As has been made clear above, the assessment of a pricing practice depends on the effects it has on competition and consumers rather than on the form that it takes. This framework sets out at high-level analysis of the effects, which involves an assessment of a range of factors.

Establishing the scope and extent of price discrimination and cross-subsidy

The first step is to establish the market context, in particular: which products are covered by the identified or potential pricing practice and which firms supply those products. This may be obvious, but it may also require investigation: for example, which add-on products are sold with which primary products. This sets the range of linked products or consumer groups that need to be considered.

The number and range of firms engaged in the practice is informative – as is their market position. If there is a single firm adopting the pricing practice, we will want to know if it has a strong market position or market share. If so, there are more likely to be exclusionary effects of the practice or concerns about whether market power is being exploited. If several firms in the market use such pricing, we also need to know whether they have a strong market position (which may differ among the firms involved). Again, stronger market positions and a greater combined market share make exclusionary effects more likely.

If a practice is widespread in the market with many players, this may be an indicator that the practice is part of normal competition – although this does not rule out concerns. If, in order to compete effectively, a firm has to ‘shroud’ some element of price or set different prices to different consumer groups, this may become the market norm – although not necessarily a healthy or efficient norm.

Observing the variation in pricing practices across the market is likely to be instructive. If some firms choose to charge different prices to different consumer groups, while others charge a uniform price, this can tell us about the different alternatives that consumers may face and how intensely firms compete for the same consumer segments. We may be less concerned about a firm’s practice of charging a group of consumers a higher price if they can readily switch to alternative providers that charge a lower price.

The second step is to analyse the level of the prices, as well as the levels of costs. Without this, we cannot establish whether prices are indeed discriminatory or whether there is below-cost pricing leading to cross-subsidy. However, this is often a very challenging process: in assessing the relevant level of costs; and disentangling those price differences that are related to cost variations and those may be explained by differences in consumers demand and preferences.

The appropriate allocation and measurement of costs is often the crucial step in the process. Conceptually, incremental cost – the additional cost from serving one group of consumers in addition to another, or from supplying a product in addition to another – is used to assess whether some sales are cross-subsidised.⁴⁵ If the incremental revenue from supply of those customers does not cover those costs, then why does the firm incur them? In such cases, we should consider the cost and demand linkages between products: a product in isolation may look to be

⁴⁵ See, for example, a report on Scottish Water (Stone and Webster Consultants, 2005) as a fairly recent example. The approach was developed by Faulhaber (1975) for regulated industries.

loss-making, but if it generates additional cross or add-on sales, then overall the pricing practice may be profitable.

Therefore, considering profitability in addition to prices is necessary to diagnose any problem correctly. Firms may have fixed and common costs to cover and set a mark-up on direct costs (costs that vary with the amount produced). In cases of cross-subsidy, losses on supplying some customers may just be offset by profits on others. However, firms may also earn profits well in excess of those needed to cover such costs: a profitable back-book could cover losses on the front-book in a competitive market, but also coexist with a profitable front-book in a market with weak competition where firms are overall earning profits.

Approach to assessing potential concerns

Analysing price discrimination and cross-subsidy through an economic lens is important because it indicates whether a regulatory intervention would be likely to increase the total welfare (efficiency) that a market generates for society. For sure, efficiency is not the sole concern of policymakers, but one of its properties is that it determines what is available for distribution. In addition, such an analysis helps us judge whether price discrimination and cross-subsidy have undesirable distributional consequences (for example, because it leads to high prices for 'vulnerable' consumers). Encouraging competition or reducing obstacles that hinder firms to compete can be an effective way to improve efficiency and outcomes for consumers, and may also allow to address distributional concerns, but is not an aim in itself.

We now consider the impact of price discrimination and cross-subsidy on efficiency (total welfare), distribution, and competition.

Efficiency and price discrimination

If every consumer were charged exactly the cost of providing the service to the consumer, then that would be efficient – since everyone who values the service as much as it costs to provide it would buy, and no one would buy who values the service at an amount less than the cost. Such a case would involve no price discrimination because if costs differ between consumers, prices would differ in line with these costs. An efficient outcome could also be achieved through price discrimination, although only in the rather implausible case that a firm would have enough knowledge on consumer willingness to pay that they could raise prices above cost for at least some consumers, while still ensuring that all consumers who value the service greater than the cost of provision continue to buy (and buy the same amount). However, this discussion of static efficiency neglects the fact that a firm might need to charge a mark-up on cost to cover its fixed costs.

Charging such a mark-up – whether a uniform mark-up to all consumers or different mark-ups to different consumers – means that some consumers no longer buy when it would be efficient for them to do so. In general, as long as prices are at or above cost, the more people that buy under a price scheme, the greater the efficiency (provided their valuation for the product exceeds the price). The welfare effects of price discrimination typically depend on whether price discrimination significantly increases output or not (over the counterfactual alternative).

The total amount bought is not the only consideration in assessing efficiency. Some people who value the service highly may be priced out of buying by a high mark-up on cost. If others who value the service less can buy at a lower price offered to them, then there is some inefficiency. In principle, by switching supply from the low-valuation person to the high-valuation person who does not receive the service, we could improve welfare.⁴⁶

The overall effects of price discrimination depend on the relative sizes of these two effects. Therefore, one of the insights of economics into price discrimination is that a uniform price does

⁴⁶ At least on a utilitarian basis, where if someone is willing to pay more than another person, it indicates the value to that individual is greater.

not always lead to the highest welfare. And so price discrimination can often be a good thing. This also implies that price discrimination can be a more efficient way of recovering fixed costs (including fixed common costs) than uniform pricing.

Price discrimination can be particularly beneficial where a large number of consumers would be priced out of the market were the firm to charge a uniform price. Further, policy interventions to restrict price discrimination may thus reduce total sales of the financial services products concerned; this may be amplified where interventions occur across several financial markets.

Price discrimination also affects the distribution of gains between different consumer segments. If a firm can find out which segments of consumers are more or less sensitive to price, it will charge a higher price to the less price-sensitive and a lower price to the more price-sensitive segment (compared to a uniform price that corresponds to the average price sensitivity of all consumers). In most situations, some consumers will win and others will lose from price discrimination. The general insight from economic analysis is that the losses will outweigh the gains and that welfare will be lower unless overall output increases significantly as a result of price discrimination.

In addition to the potential inefficient allocation of products and services among consumers, there are other considerations for efficiency. Price discrimination requires certain administrative costs to identify the appropriate price to charge each consumer group; in the case of uniform pricing, however, only one price has to be set. It can also involve costs for firms when trying to prevent consumers from reselling or otherwise trying to obtain the price associated with a different customer group. Likewise, consumers may spend time, effort or money in trying to circumvent or avoid high discriminatory prices. For example, if a firm offers a high renewal price on an insurance contract, but is willing to agree a lower price to consumers who take the time to negotiate, then consumers can avoid the high price but only at a real cost (the time and effort to negotiate). By expending that effort, consumers show that their sensitivity to price is higher than others.⁴⁷ This pricing involves extra costs for firms to have staff engage with customers calling to negotiate.

The presence of such costs of implementing a scheme of price discrimination should be taken into account alongside the consideration of the effects of who buys and at what price.

Distributional effects and consumer protection concerns

The discussion above indicates that even without efficiency concerns, there may well be distributional effects with some winners and some losers as a result of a pricing practice. Price discrimination and cross-subsidy, by definition, lead to one group of consumers getting a better deal than others, in the sense of paying a lower price relative to cost. Such differential mark-ups may appear inequitable or 'unfair'.

Economists typically step away from distributional issues, preferring to keep them the preserve of policymakers or politicians. We address these questions here briefly for two reasons. First, the public debate about certain pricing practices, including in financial services, does not recognise such a neat division of responsibilities between economists and politicians or policymakers. Secondly, although the FCA has no distributional objective, the FCA has an objective to secure an appropriate degree of consumer protection for all consumers in the markets it regulates.⁴⁸

If a significant group of consumers suffer harm as a result of a pricing practice, this may trigger consumer protection concerns. Price discrimination and cross-subsidy may be a concern if:

- the high-price segments contain a high proportion of consumers in need of protection ('vulnerable' consumers), and/or

⁴⁷ In principle, consumers could also spend effort on circumventing group pricing, which may lead to inefficiency. Clearly consumers cannot change their age or some other observable characteristics by which firms may group consumers. However, in some countries it is apparently not uncommon for a student to delay graduation from university to continue to take advantage of discounted student travel or other benefits.

⁴⁸ It appears reasonable to focus on those consumers who actually need protection. Active and well-informed consumers may find alternatives easily, while less well-informed or 'savvy' consumers may not be able to do so.

- a significant share of such consumers is excluded from essential products, such as a basic personal current account

Charging higher mark-ups to less sensitive consumers may be a more efficient way to recover fixed costs than uniform pricing. But concerns may also be raised that those consumer groups are paying more than a proportional share of those costs, and therefore may be seen as being disadvantaged compared to other consumer groups. Those concerns are likely to be more acutely articulated when the high-price group includes consumers who appear to be vulnerable.

One pay-off from economic analysis is to understand the reasons why consumers are charged higher prices. One explanation for one group of customers being less sensitive to prices is that they have strong brand loyalty. Alternatively, they may be more affluent or place a high valuation on their time, so may be less willing or inclined to shop around for a better deal. If consumers are willing to pay higher mark-ups for these reasons there is likely to be less reason for concern from a distributional perspective.

However, a consumer group may face higher prices because they are 'locked in' to a supplier, or because few alternative suppliers are willing to supply that group. A consumer group that is particularly susceptible to certain behavioural or cognitive biases may also face higher prices. Moreover, poorly informed or 'non-savvy' consumers may not find relevant information (e.g. on prices, or price components charged in the market) or alternatives easily. Such factors may be indicators of vulnerability that could be taken into account in an assessment of the need for consumer protection.⁴⁹

It appears reasonable to focus on those consumers who actually need protection (for example, because they are locked in, affected by behavioural biases, or are unable to find or fully understand relevant price information). In egregious cases, this might be all, or nearly all, consumers in the high-price segments.

Fairness as a measure of pricing

The economic approach to pricing practices focuses on the effects on consumers and firms – in terms of the amount consumers buy, who buys, and at what prices relative to a benchmark set of prices.

How consumers perceive the fairness of prices is conditioned by factors that largely relate to the **form** of the pricing practice: the way it is expressed to and perceived by the consumer, rather than the **effect** on consumer welfare. Psychologists have developed the 'dual entitlement' approach to the fairness of prices.⁵⁰ In this approach, which has been supported by a number of surveys and experiments, consumers feel that they are 'entitled' to a reference price and firms are 'entitled' to a reference level of profit. So consumers are likely to deem unfair a pricing practice that leads to a price or profit higher than the reference level.⁵¹

In this dual entitlement approach, price discrimination between groups where price differences are not clearly related to cost differences may be regarded as unfair. Further, price differences that are seen as exploiting conditions to give the firm higher profit than the reference profit may be considered unfair.

However, this approach to the assessment of pricing is fraught with difficulty. Such a form-based assessment of price discrimination can depend crucially on the framing of the price schedule.

Take the case of charging different prices to new and existing customers. If the reference price is the price to existing customers, and new customers get a 'discounted' price, the pricing scheme is likely to be seen as fair to consumers. If the reference price is the price to new customers group

⁴⁹ In egregious cases a regulator may see a need to act swiftly to address a problem and may decide not to conduct such a time-consuming assessment.

⁵⁰ See Kahneman, Knetsch and Thaler (1986).

⁵¹ Heyman and Mellers (2006).

and existing customers are charged a 'premium', this pricing is more likely to be seen as unfair.⁵² The prices those consumers groups face in each case – and so, the economic effects – could be the same. Drawing a different conclusion depending merely on how the pricing practice is described seems deeply unsatisfactory: hence our focus on analysis of the effects of the practice.

This is not to dismiss such fairness considerations entirely. They are relevant in a number of ways. First, perceived unfairness of a practice may be a useful 'radar' device highlighting where price or profit differs from the reference level – and so be a stimulus to further investigation of the effects of a practice. Second, consumer perceptions of the fairness of a price may affect their willingness to buy⁵³; so the effects of a pricing practice will often depend on how consumers perceive it. Third, consumers will often perceive unfairness when a pricing practice has distributional consequences and, in particular, when a practice adversely affects vulnerable consumers. This is an important consideration in light of the FCA's consumer protection objective.

Price discrimination, cross-subsidy and competition

The third area to consider in assessing the effects of price discrimination and cross-subsidy, alongside efficiency and distributional concerns, is competition.

There is a core tension in looking at price discrimination, cross-subsidy and competition. On the one hand, price discrimination appears to be pervasive in many markets – even with multiple players. Innovation in pricing practices to attract new customers often involves offering one or more group of customers more attractive prices than another group of customers. Price discrimination is an integral part of the competitive process in many markets.

Of key interest is hence not only whether there is sufficient competition to provide a given product or service, but also whether such competition works in the interest of consumers. In the case of price discrimination and cross-subsidisation, the question is more complex than with simpler pricing strategies because consumers that are not particularly sensitive to price may still face a relatively high price (compared to more price-sensitive customers); and in some (probably rare) cases prices may rise for all consumer segments (see p. 18). Distributional concerns may hence arise even if firms compete vigorously.

In addition, price discrimination and cross-subsidy also mean that, for at least some customers, price is above the direct or marginal cost of supply. To engage in such pricing firms must have some degree of market power. The very presence of such practices may therefore indicate that there is a limited degree of competition in a market or a part of a market.

This tension may be resolved or explained in a number of ways.

If firms incur fixed and/or common costs of operation, then pricing above direct or marginal costs is necessary for a firm to cover all its costs and be viable over time. The presence of such costs will limit the possible number of firms, but as long as their products are differentiated, we may still see relatively large numbers of firms while observing above-cost pricing, including price discrimination.

Alternatively, such practices may indicate that competition in the market is not successful at driving some elements of prices lower: for example, prices to 'inert' or less well-informed consumers or some contingent charges. Therefore, there may be a localised source of market power that impacts on the overall nature of competition in a market. This may occur because fewer firms compete for certain consumer segments or because many consumers are 'inert' and do not switch swiftly to a better offer. Lack of transparency and behavioural biases are possible sources of such consumer inertia.⁵⁴

⁵² Of course firms are well aware of this and adapt in terms of their marketing of prices to focus on price discounts rather than premia to avoid alienating customers.

⁵³ Campbell (1999), for example, found that perceived unfairness of price increases leads to lower shopping intentions.

⁵⁴ An example is PCAs where consumers have scope to make considerable switching gains, which suggests that they are not sufficiently aware of available alternatives or face barriers to accessing and assessing information on charges. Consumers using overdrafts appear to underestimate their actual usage and face difficulties when comparing such charges across banks (CMA, 2016c, xv/xvi).

Common causes of market power include a small number of competitors (and absence of potential entrants) and poor substitutability of alternative products, either from the perspective of consumers or of firms (ease of switching between offering products). Another important driver, especially with respect to retail financial markets, is a weak consumer response. A firm will have a strong position vis-à-vis customers who do not respond effectively to the offers available in the market (for example, because they find it difficult to obtain all relevant information on aspects of the offer, such as prices and fees, or because they underestimate the loss from not switching) and will not have to compete hard on price and other aspects of its offer (quality, service) to keep such consumers.⁵⁵

Such a weak consumer response is an important driver of price discrimination in financial markets (for example, in cash savings and general insurance renewal)⁵⁶ and a candidate source of economic profits that could be used to cross-subsidise products. We do not doubt, though, that it can be entirely rational for consumers not to spend time seeking to optimise all purchases, especially when gains from optimisation are small.

Whether such pricing is a reason for concern is a matter of degree. A small degree of market power or small pockets of market power are not, per se, a reason for concern because it will be a precondition for firms to offer the product where the market for a product is relatively small and fixed costs have to be incurred and recouped.

However, as well as being an indicator of market power that may allow for supracompetitive prices in at least a part of the market, price discrimination and cross-subsidy may have an adverse effect by limiting competition in a market.

Reasons for competition concerns

Price discrimination or cross-subsidisation may be a particular concern when it excludes or limits the expansion of actual or potential rivals, or if it leads to prices that are above the (economic) cost of providing the product or service such that they can be seen as exploitative. If a firm engaging in such pricing has a strong position in a part of the market or all of it (that is, a significant degree of market power), or that all firms using it jointly account for a large share of sales of the product(s) concerned such pricing can give rise to competition concerns.⁵⁷

We do not go into the detailed assessment of such anticompetitive and exclusionary behaviour in this paper, as this is extensively addressed elsewhere.⁵⁸ The approach to such an assessment will be the same for financial services as for other industries. The concern that such pricing may limit entry can arise in a number of financial service markets.

For example, in the cash savings market, an entrant will mainly attract more price-sensitive switchers. Selective price cuts on offers to switchers are hence likely to make it more difficult for a new firm to enter. Such selective price cuts may be more difficult to overcome when there are economies of scale. In a number of markets a base good or service is sold with add-ons, such as basic insurance cover with optional additional cover or a basic bank account with optional additional services. An entrant into the market for the base good has to offer the subsidised base good or service at the subsidised price. Such entry is likely to only be successful if the entrants

⁵⁵ Current thinking on competition economics acknowledges that a weak consumer response is a threat to effective competition: for example, the CMA's guidance on market investigations, (Competition Commission, 2013, 62) and appreciates that behavioural biases may drive such a weak response and 'may create or strengthen market power in what would otherwise be a competitive market'; e.g. Ertz et al., 2013, 22.

⁵⁶ The CMA identified this as an area of concern in its findings from their energy market investigation (CMA 2015a, 291/2) and CMA (2016b, 30-37) and its findings from their retail banking market investigation, e.g. CMA (2016c, 217/8 and 308).

⁵⁷ If the firm's (or firms') position in the market is so strong that it is seen as dominant, such pricing practices may come under the prohibition of an abuse of a dominant position of competition law (see Annex 2 for details). For more detail, see Guidance on the Commission's Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ 2009, C-45/7 and Motta (2004, chapter 7). Such exclusion of rivals may also arise from a number of other pricing strategies. The European Court of Justice defines dominance 'as a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers'. See European Court of Justice in Case 27/76 United Brands v Commission, 1978.

⁵⁸ This type of analysis is discussed in existing guidance (e.g. OFT 2004), Competition Commission (2013) and European Commission (2009).

also provide the add-ons (for example, as described by Gabaix and Laibson, 2006). If provision of the add-on is hard for the entrant, this may limit the number of new entrants.

The combination of economies of scale and add-ons may have been seen to play out in the case of mortgages and life insurance, or mortgages and PPI, prior to the CC market investigation. New entrants into the mortgage market were likely to have found it difficult to attract customers if rivals offer mortgages below cost to new customers (unless the entrants also offer PPI). Also, as is generally the case, a larger customer base is likely to allow economies of scale in distribution, meaning that the new entrants have a size disadvantage.

5 Regulatory interventions

This chapter considers regulatory interventions that could be adopted to address issues raised by price discrimination and cross-subsidy; the potential benefits and risks associated with these interventions; and the factors that may be considered when determining whether or not to intervene. Annex 2 sets out the FCA's legal powers to address issues that may arise from price discrimination and cross-subsidy.

The key findings of this chapter are:

- Price discrimination is often a part of normal competitive practice and so does not necessarily warrant any intervention.
- Before intervening, it is necessary to carefully identify the problem, as well as identify appropriate solutions.
- Badly designed or inappropriate regulatory interventions can lead to undesired or unintended consequences for consumers and competition.
- Regulatory interventions to address the cause of the identified problem are more likely to be successful, and avoid unintended consequences, than interventions to address symptoms.
- Regulatory interventions that stop short of direct setting or capping of prices appear to have had positive impacts in addressing problems identified arising from price discrimination.

Determining the need to intervene

There are many situations where price discrimination or cross-subsidy is a part of normal healthy competition, so there will be many situations where no intervention is necessary. As this section highlights, even where a significant negative impact of such pricing on competition or on consumers has been identified, a number of unintended consequences can arise from intervening in pricing structures. Therefore, even in situations where a potential issue has been identified, there may be no appropriate intervention that will improve the situation. Hence, the question whether intervention is warranted has two aspects: there must be both a significant negative impact of such pricing on competition or on consumers; and a clear prospect that intervention will provide a net benefit, considering that it has a cost and also a probability of failure.⁵⁹ Assessing the effect of such pricing or proposed intervention is often complex because measuring the relevant quantities may be difficult or very costly.⁶⁰

As an initial step in identifying possible interventions, it is important to be clear about the undesirable effect of price discrimination or cross-subsidy that any such intervention is trying to address, and the evidence to support the existence of that problem.⁶¹ From an economic perspective, a successful regulatory intervention should take into account the current market context, as well as any possible market reaction to that intervention. There is also a need for caution in assessing the effects of proposed interventions. The underlying assumptions and models may not appropriately reflect the uncertain world in which we live.⁶²

⁵⁹ This was recognised in the FSA's Guide to market failure analysis and high-level cost-benefit analysis (FSA, 2006).

⁶⁰ Changes in welfare in particular may be hard to pin down. Bernheim and Rangel's (2007a) proposed approach to measuring welfare in presence of consumer biases for example appears to require too much information and to be too complex for regulatory assessments.

⁶¹ See Iscenko et al. (2016) for more details on a general, market-based approach to the design of regulation.

⁶² For example, see Manski (2011).

Uniform pricing is the benchmark used in the academic literature on effects of price discrimination. For policy purposes, it makes sense to assess price discrimination against the prices and mark-ups that would result from the most appropriate policy intervention. Since we only observe one pricing practice, not the alternatives, it can be challenging to assess the likely effects of a pricing strategy compared to the relevant counterfactual.

Above we have identified a number of possible situations where there may be grounds for intervention. Such pricing practice may raise a number of these concerns:

- Price discrimination and cross-subsidisation may involve exploiting certain vulnerable or captive consumer groups who are charged very high prices because of their inability to switch away. This may be associated with excessive (economic) profits for firms. It may also have the effect that some of the vulnerable or captive consumers are no longer served in the market.
- Cross-subsidisation may be a sign of dysfunctional competition that leads to excessively low prices (i.e., below cost) to some consumers, counterbalanced by excessively high prices to other consumers. This may lead to inefficiency as prices do not cover appropriate costs.
- Price discrimination and cross-subsidisation may be a sign of competition that does not serve consumer needs because the price structure is opaque.
- Price discrimination and cross-subsidisation may raise distributional concerns from the implied subsidy from one consumer group to another consumer group.
- Price discrimination and cross-subsidisation, when adopted by a firm with substantial market power, may have the effect of limiting competition by excluding or limiting the expansion of actual or potential rivals.

Objectives of intervention and issues to consider

When examining the merits of intervening, a regulator must consider its objectives as well as its statutory powers. The FCA has the strategic objective of ensuring that financial services markets function well, and to that end three operational objectives:

- the consumer protection objective
- the integrity objective, and
- the competition objective⁶³

When discharging its general functions – which include determining its general policy and principles by reference to which it performs particular functions, making rules, or giving general guidance – the FCA must, so far as is reasonably possible, act in a way that is compatible with its strategic objective and advance one or more of its operational objectives. When discharging its general functions to address – for instance, the potential adverse consequences of price discrimination or cross-subsidy on the financial markets – the FCA must, so far as is reasonably possible, advance one or more of its operational objectives.⁶⁴ In particular, when furthering the competition objective, the FCA may have regard to a number of factors in considering the effectiveness of competition in the market for financial services (such as financial access).⁶⁵

These operational objectives will usually mutually support each other. If price discrimination is identified as having adverse effects in a financial market, then furthering the competition objective would normally advance its consumer protection and its market integrity objectives.

For example, concerns may arise if consumers are particularly vulnerable due to having few alternatives, lower cognitive ability, or being financially distressed. Therefore, the main apparent concern is the protection of certain consumer groups. However, the best remedy may be to

⁶³ In addition to these points, the FCA must also consider the regulatory basis of any interventions it makes. See Annex 2 for more detail on this.

⁶⁴ However, in some cases such interventions will fall to central government rather than the regulator.

⁶⁵ [Financial Services Act](#) (2012), chapter 1, part 1E, section (2)(b).

intervene to make competition more effective for these groups of consumers.⁶⁶ In assessing such a concern, care should be taken to avoid protecting consumers who can make (or could have made) effective choices in the absence of an intervention. This is important because protecting all consumers regardless of their ability to look after their own interest effectively will reduce all consumers' incentive to shop around for good offers or to get information on firms' reputations for quality of service. This would then reduce the pressure on firms to provide a good offer.

In that regard, when the FCA discharges its general functions, the FCA has the duty to promote effective competition when taking actions to pursue its consumer protection or integrity objectives, *provided doing so is compatible with advancing those objectives*. This means that there is no requirement for the FCA to promote competition to the extent that it would be incompatible with acting in a way that advances the consumer protection objective or the integrity objective. In other words, the FCA may well restrict the pricing behaviour of firms if such behaviour is detrimental to consumers or to market integrity. An important point to consider here is that the FCA's competition objective is not about any competition. It is about competition in the interests of consumers. So any conflicts between the competition duty and other objectives (market integrity ultimately benefits consumers and society more broadly) may be rare.

For example, an intervention to restrict price discrimination practices (such as firms taking products off-sale and reducing interest rates) in the cash savings market may protect the least engaged consumers. However, this intervention might also restrict pricing flexibility and therefore reduce consumers' incentives to switch, and may consequently reduce firms' incentives to compete. A prohibition of such practices would go furthest and is likely to cause unintended consequences, such as a reduction in total sales and, consequently, welfare. In addition, economic profits from sales to consumers whose 'teaser rates' expired and competitive pressures may lead to greater innovation.

Of course, the presence of a market imperfection does not always justify intervention.⁶⁷ There must be both evidence of an adverse effect and the prospect that the proposed intervention will provide a net benefit. Assessing the potential net benefit involves recognising that regulatory intervention has a cost as well as a probability of falling short or failing to address the problem.

Price regulation

When a problem manifests itself in the form of price discrimination, an obvious direct solution may be to regulate those prices. However, although such an approach may be superficially attractive, it will have considerable drawbacks, including:

- The pricing practices identified and discussed in this paper take many different forms and evolve dynamically over time as part of the competitive process. Any attempt to set or cap prices in this context automatically restricts the competitive process.
- Even if the regulator could identify an appropriate regulated price at a particular point in time, the outcome of a price cap depends closely on consumer demand and firm costs, which can change over time and can consequently render any particular regulated price inappropriate.
- Determining a welfare-enhancing level of a price or price cap requires the regulator to have substantial information, which may be unavailable or very resource-intensive for the regulator.
- Setting or capping prices alters incentives for provision on non-price elements of the product and may lead to a lower level or quality of service.
- Regulating complex pricing structures can lead to development of new pricing structures designed solely to avoid the regulatory intervention, which may undermine the desired effects of the intervention.

⁶⁶ Many of the reasons for potential concerns and issues for consideration in designing an appropriate intervention link to fundamental issues of consumer protection, namely transparency, effective choice, access, value for money and support for vulnerable consumers.

⁶⁷ See, for example, Iscenko et al. (2016, 15-17).

- Capping or setting prices can lead to reduced price competition as firms' optimal response may be to simply set their prices equal to the level of the cap.
- Capping or setting prices can lead to reduced access for those consumers who are not supplied because the price does not cover the (expected) cost or risk.
- Capping or setting prices can make consumers less active in the market. When there are benefits in a market to being savvy, then consumers take responsibility for being aware of the options in a market. If consumers believe the regulators will keep price low, then their incentive to be active in the market may fall – lowering further sensitivity to price.

Direct price regulation is therefore only likely to be a desirable option if: there is a clearly identified and severe problem; all other efforts to stimulate appropriate competition or provide an appropriate degree of consumer protection have proved ineffective; the market is relatively stable and predictable in how it will develop; and the regulator is able to obtain the requisite information to set appropriate limits on prices. Such a combination of circumstance is expected to be rare.

Rationales for previous interventions in pricing structure

In a number of markets, including abroad, interventions have been made to prevent or restrict price discrimination and cross-subsidy practices. A variety of motivations exist for such interventions – including political decisions to use such policies for the purposes of redistribution between different consumer segments (and so would not be decided by regulators such as the FCA). As such, the stated reason for an intervention may not be a complete explanation of the motivation.

Inert or inactive consumers

Ofgem intervened to prohibit price discrimination by region (a prohibition that has now lapsed) and by payment type. The motivation for prohibition of price discrimination by region was that firms with an incumbency advantage in a region would charge higher prices to their existing (and relatively inert) consumer base. The concern for consumers using a different payment type reflects that consumers using certain payment methods may be more vulnerable or have fewer alternative options. In its energy market investigation, the CMA found that a ban on price discrimination would be an ineffective remedy. See the case study on page 36.

A decision to ban so-called 'teaser rates' on cash savings products in the Netherlands was taken following concerns about whether they were in consumers' best interests. However, no Impact Assessment of this intervention has yet been undertaken. The FCA (2015a) did not find significant issues with bonus rates and hence did not consider this option.

Contingent charges

The CARD Act in the USA was implemented due to concerns about the high fees and charges paid by consumers in the credit card market. These fees and charges were less visible or salient to consumers at the point of taking out their card, and so consumers were much less sensitive to the level of these charges compared to headline interest rates. An evaluation of the impact of the CARD Act indicated that the effect of the Act was to reduce payment on those fees and charges without apparent corresponding increase in other fees.⁶⁸

Previously, the Office of Fair Trading (OFT) had intervened on the level of contingent charges in credit cards, and conducted a court case on the level of certain similar charges for current accounts. A similar rationale to that for the CARD Act has been articulated for these interventions.⁶⁹

⁶⁸ Agarwal et al. (2015)

⁶⁹ Armstrong and Vickers (2012)

It is interesting to note that, in both cases, changes were effected without necessarily directly setting or capping prices. For example, the OFT set out a level of the fee for credit cards above which it would consider examining the fee for unfairness, rather than directly setting the level of the fee. Under the CARD Act, consumers were required to opt in to charges for exceeding the credit limit on their credit card. The effect was a substantial reduction in such over-limit charges to consumers. The intervention primarily worked by lowering the cost to consumers of avoiding the charge. Although not mandated by regulation, the adoption of text alerts – warning consumers of a low account balance in the context of mobile banking – has been shown to be associated with lower incidence of overdraft charges in the UK.⁷⁰

Principles of fairness and intentional cross-subsidy

The EU Gender Directive prohibits using actuarial factors based on gender in the calculation of insurance premiums. The motivation for the directive is not problems in a specific market, but rather a concern for avoidance of gender discrimination more generally and fundamental principles of equality. The effect of the prohibition has been to introduce uniform pricing. Due to the different accident risks, health risks and life expectancy of men and women, which affect costs of supplying insurance, the effect is to require different mark-ups for the two groups – a form of price discrimination as we have defined it. To the extent that insurers are unable to reflect the different cost of insuring risks in premiums, there will be different mark-ups for men and women, introducing price discrimination.⁷¹ Consequently, the directive may have had various unintended consequences for the incentives to save for retirement, and uptake of life insurance and motor insurance policies.⁷²

The Flood Re scheme to cap the cost of home insurance in flood-prone areas is motivated by the concern that if consumers in flood-prone areas face the true cost of insuring their homes, then some consumers will no longer be able to afford such insurance and risk potentially severe losses. The scheme will deliberately redistribute from those consumers who pay the levy to those who receive it. As would be expected with a scheme to deliberately subsidise activity that would otherwise be loss-making, it is estimated that the net impact of the Flood Re scheme to cap the cost of home insurance in flood-prone areas will be negative.⁷³

Reflections on previous interventions

Interventions may often be designed to tackle the symptoms of price discrimination, such as 'unfair' pricing or 'undesirable' welfare effects, rather than the causes of the identified problem. Tackling the causes of problems, such as the drivers of consumer behaviour, should be considered both preferable and upfront, before turning to interventions that cap or restrict prices. It is also notable that few interventions on pricing practices have been subject to assessments of their impact. It is therefore often difficult to state whether they have been net beneficial or not.

⁷⁰ Hunt et al. (2015)

⁷¹ Mintel (2015): 'Industry sources suggest that the harmonisation in premiums has led to significantly higher rates for female policyholders (in the region of 15-20%) and a nominal downward adjustment in rates for male policyholders.'

⁷² It may stimulate the use of Big Data to refine segmentation once gender can no longer be used.

⁷³ Defra (2014, 23) concludes that -£194m would be the best estimate of its net present value over a period of 10 years (after considering costs but before considering wider non-monetised factors).

Case study: US laws on general insurance

An example of a blanket prohibition is the interpretation of US laws covering general insurance, which state that ‘rates shall not be excessive, inadequate, or unfairly discriminatory’ as prohibiting differences in prices charged unless they reflect differences in risk factors. This view is reflected in a White Paper by the National Association of Insurance Commissioners, which deems considering the following factors in pricing as inconsistent with the statutory requirements: price elasticity of demand; propensity to shop for insurance; retention adjustment at an individual level; and a policyholder’s propensity to ask questions or file complaints.⁷⁴ Each state has taken a slightly different approach to implementing the law concerning pricing, but some have specifically regulated a ban on firms using price elasticity and consumers’ propensity to shop for insurance in pricing. These appear to have been based on an assessment of the legal restriction. We are not aware that economic analysis of non-risk-based pricing has been undertaken to understand the welfare implications.

The nascent field of behavioural welfare analysis combines welfare economics with insights from behavioural economics.⁷⁵ While this approach admits the traditional justification for regulatory intervention, it also introduces additional justifications. In the more traditional approach, regulatory interventions affect outcomes only through their effect on prices, the available information, or available options. The behavioural literature shows that policies can also have significant effects on outcomes: for example, by changing the way in which information is framed or by providing cues. Such interventions may improve welfare by reducing the importance, likelihood or detrimental consequences of biased consumer behaviour.⁷⁶

Recent developments in the academic literature advocate an ‘asymmetric paternalistic’ approach to regulation. Such an approach tries to bring about benefits for those consumers who would otherwise suffer detriment were the regulation not imposed, while imposing little or no harm on those who would not.⁷⁷ Where feasible, we would consider such interventions with respect to price discrimination and cross-subsidy to be attractive policy options.

⁷⁴ National Association of Insurance Commissioners (2015).

⁷⁵ Bernheim and Rangel (2007b), for example, provide an overview.

⁷⁶ Such interventions are now frequently considered, for example, by the CMA in the retail banking market investigation, CMA (2015c, 8/9), CMA (2016c, 483), and by Adams et al. (2015)

⁷⁷ See Camerer et al. (2003) and Thaler and Sunstein (2003) for more on this.

Case study: The CMA on price discrimination in energy markets

The recent discussion of regulatory interventions in UK energy markets by the CMA offers an interesting example of an assessment of price discrimination. Below, we focus on price discrimination in the supply of electricity to domestic consumers.

Prior to privatisation, each of the 14 supply regions in the UK were supplied by a regional electricity incumbent. Following privatisation, and after some consolidation, each larger electricity supplier is incumbent in three of these regions and an entrant in the 11 remaining regions. Moreover, the established consumer base in a supplier's incumbent regions is more inert than those consumers who switch to an entrant. Each supplier is therefore likely to see its established consumer base as little sensitive to its price, while consumers in regions where it is an entrant are likely to appear to be very price-sensitive. Price discrimination between the inert and the active consumer segments hence implied price differences between different regions. This is consistent with the CMA's finding that the larger suppliers supply a larger share of customers on higher standard variable tariffs in their incumbency region.⁷⁸

In 2009, the market regulator, Ofgem, introduced two licence conditions prohibiting price differentials by region and by payment type unless they reflected differences in cost. The prohibition of regionally different mark-ups lapsed in 2012, but the prohibition of price differentials based on payment types remained in force.⁷⁹ From August 2013, Ofgem also required suppliers to offer a maximum of four tariffs, which also limits the extent of price discrimination.

The CMA assessed information from suppliers and concluded that the mark-ups charged differed for reasons other than cost differences. It also collected information from firms on their pricing strategy and concluded that there was a material share of disengaged consumers. Consistent with the preconditions for price discrimination (see p.11), the CMA also found that the largest six suppliers enjoyed a position of unilateral market power over their inactive consumer base and that their average prices were higher than those to be expected in a well-functioning competitive market.⁸⁰ It did not assess effects of price discrimination on total welfare or consumer surplus.

However, the CMA discussed why a ban on price discrimination would be an ineffective remedy for the observed weak consumer response. It recognises three potential benefits from price discrimination. First, the price charged to active consumers is likely to be lower than under uniform pricing, since suppliers might likely set a uniform price tailored to their larger established consumer base, accepting that active consumers may switch to entrants. Second, (active) consumers have a higher incentive to switch (i.e. a higher potential gain) in case of price discrimination. This implies higher competitive pressure from the demand side in that part of the market. Thirdly, this competitive pressure, and possibly the higher economic profits in case of price discrimination, may allow for more investment and innovation than in the absence of price discrimination. Hence, the CMA found Ofgem's remedies problematic and decided to remove restrictions that limit suppliers' scope for price discrimination.⁸¹

The same reasoning may apply regarding a hypothetical ban on price discrimination in retail financial products such as savings accounts or insurance policies. Were firms forced to charge a uniform price (equal mark-up) to their consumers, they might also choose to set a high price targeted at their existing, more inert, consumer base and accept losing active consumers to entrants. Since entrants might not be as strongly constrained by the new higher price, active consumers switching to entrants might also pay a higher price. The CMA's remaining arguments

⁷⁸ CMA (2016b, paras. 91 and 102).

⁷⁹ However, comments by Ofgem against regionally differing mark-ups may have meant that suppliers continued to abide by it. See CMA (2015a, para. 147) and CMA (2016b, para. 8.68).

⁸⁰ See CMA (2016b, paras. 154 and 159).

⁸¹ See CMA (2015b, para. 149), CMA (2016a, para. 74) and CMA (2016b, paras. 213/4).

on competitive pressure, investment and innovation might also apply.⁸² Banning price discrimination in this scenario would consequently not be aligned with the FCA's competition or consumer objective, while a more detailed analysis would be required to demonstrate whether any 'inert' consumers would pay a high mark-up on insurance or receive a comparatively low interest rate on their savings. Such pricing to inert consumers may not necessarily lead to consumer protection concerns, since the mark-ups may not be considered excessive. Consideration of the FCA's competition objective would then be sufficient.

Types of possible interventions

As this discussion has shown, there are a number of types of interventions which the authors believe could be used to address the adverse consequences of price discrimination or cross-subsidy. These vary by their degree of interventionism and the potential situations where they would be most appropriate. These are summarised in the two tables below.

⁸² See the CMA's discussion of possible remedies in the energy market investigation (CMA 2015c). Hviid and Waddams Price (2012) discuss the effects of a ban of discriminatory pricing on competition with reference to the theoretical literature, in particular Corts (1998).

Table 1: The categories of possible interventions

Intervention (degree of interventionism)	Description	Risks	Circumstances under which intervention may be used
Remedies to lower barriers to entry (low)	Measures that make market entry easier (e.g. reduce regulatory requirements, facilitate adoption of less costly technologies).	May be difficult if barriers to entry are largely due to fixed cost which cannot be lowered.	If barriers to entry are a cause of market power that leads to concerns. Aims to increase competition.
Informational/educational remedies (low)	Behaviourally informed disclosure may help consumers identify and mitigate potentially harmful price discrimination practices.	May be difficult to determine how best information should be disclosed. May be resource-intensive Behaviourally informed disclosures may be undermined by other strategic disclosures or framing or behaviour by firms.	If price discrimination/cross-subsidy result from underlying behavioural drivers. Aims to promote effective competition.
Intervention at point of sale (medium)	Regulators may act to regulate how products are sold. This may include banning the sale of add-ons at the point of sale.	May reduce consumer surplus. May reduce consumer choice. May result in unintended consequences, such as inefficient uptake and usage of financial services.	If it is not possible to remedy the underlying behavioural drivers. Aims to promote effective competition.
Interventions to restrict prices/price capping (high)	Regulators may impose price caps or other restrictions on the degree of price discrimination that firms may employ (including on charges in the 'small print' of contracts). This may involve proscribing the structure of pricing (e.g. a simple tariff). ⁸³	May be difficult to set the optimum price level/cross-subsidy May result in some consumers being excluded from the market. ⁸⁴ May reduce consumer choice May reduce effective competition May lead to increased prices and profitability elsewhere.	Where markets are not working well – to the extent that it is possible only to tackle the symptom(s), rather than the underlying cause(s) of price discrimination/cross-subsidy.
Prohibition of price discrimination (or mandating cost-based pricing) or below-cost pricing (high)	Regulators may ban price discrimination/cross-subsidy practices (including as part of Competition Act 1998 work).	May reduce consumer choice. May reduce welfare for some subsets of consumers. May reduce price competition. May reduce total welfare.	If markets are not working well, but it is possible only to tackle the symptom(s), rather than the underlying cause(s) of price discrimination/cross-subsidy.

⁸³ This includes mandating a uniform price, i.e. a two-part tariff with a fix fee of zero.

⁸⁴ Moreover, it is very hard to measure welfare effects on these.

Table 2: Examples of interventions

Intervention	Description
Remedies to lower barriers to entry	The FCA launched Project Innovate which reduces the regulatory burden on firms entering with innovative products and services. ⁸⁵
Informational/ educational remedies	Coppack et al. (2015) propose highlighting to consumers the benefits of shopping around for cash savings products. FCA (2015c) discusses the merits of disclosing last year's premium on renewal notices for retail general insurance policies and other measures to encourage consumers to engage.
Intervention at point of sale	The CC banned the sale of PPI with loan products. Similarly, the FCA decided to implement a deferred opt-in for Guaranteed Asset Protection insurance. ⁸⁶
Interventions to restrict prices/price capping	The FCA imposed a price cap on the cost of high-cost short-term credit. ⁸⁷ Similarly, the CARD Act in the USA imposed limits on credit card fees and charges.
Prohibition of price discrimination/below-cost pricing	In the Netherlands, 'teaser rates' on cash savings products were effectively banned.

⁸⁵ See the FCA [website](#).

⁸⁶ See Competition Commission (2009) and FCA (2015b).

⁸⁷ In doing so, the FCA responded to Parliament giving it a duty to secure an appropriate degree of protection for borrowers against excessive charges in the high-cost short-term market in December 2013. See p.9 for details and the FCA's [website](#) for a brief guide on the price cap to high-cost short-term credit.

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Annex 2: Regulatory basis of interventions

The FCA's intervention powers under FSMA

There is no general prohibition of price discrimination and cross-subsidy in the Financial Services and Markets Act 2000 (FSMA) and its secondary and related legislation. However, the FCA has powers under FSMA to advance one or more of its operational objectives, namely:

- i. the consumer protection objective
- ii. the market integrity objective
- iii. the competition objective.

As explained above, price discrimination and cross-subsidy may fall within the FCA's competition remit and may also engage the consumer protection or integrity objectives.

The FCA's most significant powers under FSMA are its rule-making powers and its powers over a firm's permission. These powers can be used to advance the FCA's operational objectives and, therefore, to deal with potential price discrimination or cross-subsidy problems at industry level (for example, by making a rule) or individual firm level (for example, by imposing requirements on a firm to undertake or cease a particular action). The FCA has broad discretion under FSMA when exercising these powers. The FCA can also publish guidance, either in connection with rules or standing on its own.

The FCA's FSMA powers do not need to meet all the requirements set by competition law (for example, a rule applies to all firms, whether or not dominant). Moreover, when introducing a rule, the FCA will normally consult the industry, which will enable the FCA to get a feel for the industry's reaction and enable it to provide better guidance in its response. A number of rules in the FCA's Handbook require firms not to discriminate.

The FCA does not have unlimited powers when acting under FSMA and must comply with public law. For instance, the FCA cannot make a rule which would breach the EU Treaty or EU secondary legislation (for example, directives and regulations). Moreover, the FCA's powers under FSMA apply only to regulated firms (authorised persons). From a policy perspective, the FCA will also carefully consider the case for intervention: for instance, in a case where firms would not be breaching competition law but are nonetheless engaging in price discrimination or cross-subsidy, the FCA will examine whether intervening would further its FSMA objectives.

Before exercising certain of its FSMA powers, including the powers over firms' permissions mentioned above, the FCA has a duty to consider whether it would be more appropriate to proceed under the Competition Act 98 (CA98). Price discrimination or cross-subsidy by individual firms relate to conduct which, because of the overlap with competition law (see below), might be more appropriately dealt with under the Competition Act 98, if it relates to a dominant firm and may be anticompetitive.

The FCA's intervention powers under the Competition Act 1998

On 1 April 2015, under the concurrency provisions in FSMA, the FCA became a concurrent competition regulator. The FCA's competition powers include powers to act under the Competition Act 1998 concerning agreements and conduct relating to the provision of financial services.

Price discrimination is specifically prohibited by Article 102 of the Treaty on the Functioning of the European Union (TFEU) and section 18 CA98, if certain conditions are met. Cross-subsidy can also amount to a breach of these provisions if, for instance, it enables a dominant undertaking to engage in pricing abuses (such as predatory pricing or margin squeeze). The ability to practice persistent and systematic price discrimination and cross-subsidy are indeed characteristic of market power.

The FCA's scope for intervention under CA98 is wider than under FSMA: the FCA can enforce competition law on non-regulated firms provided that they are active in the financial services market, which includes any service of a financial nature (such as banking, credit, insurance, personal pensions or investments). Abuse of dominance cases tend to be high profile. The publicity surrounding such cases and the precedential value of the resulting decisions could provide important guidance to the financial services industry and a reminder that it is subject to competition law.

When examining price discrimination or cross-subsidy conduct under the TFEU/CA98, the FCA will follow the case law of the Competition Appeal Tribunal and the Court of Justice of the European Union (CJEU). One of the most recent CJEU cases on price discrimination in the financial services sector is *Clearstream* (2009). Between 1997 and 2002, Clearstream charged a higher per transaction price for equivalent clearing and settlement services to Euroclear Bank (an international central securities depository) than to other national central securities depositories (CSDs). The General Court, supporting the EU Commission's analysis, found that primary clearing and settlement services for the cross-border transactions provided by Clearstream to Euroclear Bank and CSDs were equivalent services. Consequently, the charging of a higher price to EB than to the national CSDs for equivalent services constituted discriminatory pricing prohibited by Article 102 TFEU.

