Agenda

Advancing economics in business

If you don't know, you can pass: pass-on at the interface of economics and law

When faced with a cost shock—a tax increase or an overcharge following an antitrust infringement, for example—what can a firm do? And how can its actions be measured? Following publication of the European Commission's guidelines for the assessment of pass-on in an antitrust damages setting, this article takes a wider look at the economic estimation of pass-on

When a firm's input costs increase, it has to decide how much of this to 'pass on' to its customers in the form of higher prices.

There are several contexts in which one might want to understand the mechanics of this. For example, if a cartel fixes input prices, what is the impact of this 'overcharge' through the value chain? Alternatively, if government introduces a new tax, who bears the impact and what are the wider economic impacts?

The way in which firms ultimately set their prices depends on a range of factors—for example, changing input costs, their competitors' pricing decisions, anticipating the customer response to price changes, existing contracts, and other market conditions. As such, isolating the reaction of a firm to an increase in input costs requires an approach, be it empirical or theoretical, that accounts for these various factors.

Pass-on: trading off price and quantity

Faced with an input cost shock, a firm may:

- increase its 'effective prices', including through shrinkflation[1]—a reduction in the product size, or quality, while maintaining the price;
- reduce costs elsewhere, such as variable costs or overheads;[2] or
- absorb the cost increase, and reduce its margin.

If a firm were to increase its prices by the full amount of the cost shock, customers would react by buying less of the produce, which might lower the firm's profits compared with a scenario without the additional cost. However, not changing the price charged to customers would mean a lower profit margin. Deciding whether to pass on additional input costs (and by how much) will depend on the total impact on the firm's profits, which in turn will depend on how customers respond to the price increase.[3]

Firms' price-setting is constrained not only by demand and cost considerations; the analysis becomes even more complicated when competitors' reactions are taken into account. When there is an industry-wide cost shock (for example, because a competition infringement in an upstream input market affects *all* firms in the downstream market), higher pass-on is expected if (among other factors):

- the industry is very competitive; and
- the cost shock affects variable and not fixed costs.

For example, where competition is intense, firms will be forced to set their prices close to the cost level, resulting in nearly 100% pass-on of any changes in those costs. This may not be the case if the infringement coverage is only partial—such as when some firms buy the overcharged input while others used different, non-affected inputs, and therefore did not face an overcharge. In the latter case, a firm facing such a cost shock may not pass it on (or may do so only partially), in order to remain competitive with firms unaffected by the shock.

How to determine pass-on

Methods for determining pass-on have been hotly debated in many areas of economic and legal policy. In an antitrust damages setting, the Commission has recently published guidelines[4] on some of the most widely used approaches to assessing pass-on, and we draw on some of these here. In many areas, the guidelines view market structure analysis as a reasonable starting point. The discussion above sheds light on which market characteristics may be relevant.

Alongside this, the guidelines advocate looking at the factual evidence. For example, what are the contractual pricing agreements between sellers and buyers? Does regulation require certain pricing practices? Are there management documents explaining that a price increase following a cost shock was necessary? In some situations, assessing the evidence can go a long way to determining the pass-on rate. The first box overleaf gives a specific example of intra-corporate pass-on estimation in damages assessments.

At the same time, some caution is needed in drawing too directly from 'documentary' sources. For example, a simplistic approach might involve reviewing a firm's downstream invoices. Where these are itemised, it might be possible to see the downstream charges for a particular input (for example, the costs of materials in a construction invoice). However, invoices might also cover a wide range of goods or services, meaning that the 'price' of a particular item listed may not reflect the real charge being levied.

This hidden complexity is illustrated by a First-tier Tribunal (FTT) judgment in the UK.[5] In this case, M&S ran a promotion described as 'Dine In for £10 with Free Wine', offering customers three food items for £10 and a 'free' bottle of wine. The issue for the FTT was how the £10 was apportioned between the food items and the bottle of wine. M&S argued that the wine was free of charge and because food items are not charged VAT in the UK, no VAT was due on the bundle. The FTT disagreed. The wine was not 'free' since it was conditional on the payment of £10 and the purchase of the three food items. As such, the FTT found that 'the £10 must be apportioned across the food and wine items', notwithstanding the allocation on the receipt issued to the consumer, and therefore some VAT was due on the bundle.

More widely, the estimation of pass-on is not only a 'factual' exercise; it is necessary to understand how prices were determined and also how they would have been determined had the input costs been different (a *counterfactual* assessment). As such, a more sophisticated empirical assessment of pass-on is often required. Indeed, the recent Commission guidelines place a great deal of emphasis on such approaches. Estimating the pass-on of input costs may include an assessment of the total prices charged to consumers, while controlling for some of the other factors that will affect a firm's pricing. This requires an understanding of some of the trade-offs that a firm will make when deciding whether to pass on particular costs. In some cases, simulation analyses,[6] similar to those sometimes applied in the assessment of mergers, may also be appropriate.

Tax incidence

In the context of taxation, the theory of pass-on is crucial for policymakers. A consumption tax or excise tax is effectively a per-unit variable-cost increase. Consequently, the expected outcome following an industry-wide increase in a consumption tax rate might be compared with an industry-wide variable cost shock.

The 'tax incidence' is therefore the division of the tax burden between the seller and the buyer. Whom the tax is levied upon may not reflect who actually bears the burden of the tax. A consumption tax is levied on consumers and collected and paid by sellers, but will not necessarily be wholly paid by consumers. For example, a soft drink sold for £1 may see a new tax of 10p. Customers only pay this tax if the price rises to £1.10 (and there are no other changes in the costs or demand conditions). The extent to which firms adjust their prices in response to such a tax change will depend on the elasticity of demand they face for the products in question. Therefore, when a firm is setting its prices, its decision on whether to pass on the tax will include any anticipated reaction from consumers in the face of higher prices, as this will have an impact on the firm's overall profits.[1]

In tax disputes, where a tax is later found to have been applied inappropriately, pass-on tends to be discussed, as shown in the following cases.

In *Marks and Spencer plc (M&S) v. Her Majesty's Commissioners of Customs and Excise* (HMCE),[2] M&S argued that it had erroneously been applying the standard rate of VAT to teacakes for 21 years, as cakes are not subject to VAT in the UK. On reclaiming the differential, HMCE argued that M&S had passed on the majority of the VAT overcharge to its customers. The ruling by the European Court of Justice ultimately determined that while M&S might have passed on the benefit to consumers, repaying the VAT to M&S was closer to remedying the infringement.

The *Irish Air Travel Tax* operating between 2009 and 2011 was judged by the European Commission to amount to unlawful state aid. In the Commission's state aid investigation of differentiated air travel tax rates implemented by Ireland, the state argued that the tax was levied on consumers, and therefore was not borne by airline operators. In determining the tax incidence, there was considerable discussion about the ability of the airline operators to pass on the tax to consumers.[3]

Sources: [1] Studies have looked at how consumer prices move after VAT changes. A study found that in France firms passed on 45% of a VAT cut in 2009. Benzarti, Y. and Carloni, D. (2019), 'Who Really Benefits from Consumption Tax Cuts? Evidence from a Large VAT Reform in France', *American Economic Journal: Economic Policy*, **11**:1, February. [2] *Marks & Spencer plc v CRC* (Case C-309/06), European Court of Justice, 10 April 2008. [3] State aid case SA.29064 (11/C, ex 11/NN) — Differentiated air travel tax rates implemented by Ireland (notified under document C(2012) 5037).

Intra-corporate pass-on

Corporates often consist of various subsidiaries, in multiple jurisdictions. Questions of intra-corporate pass-on may then arise to assess where the damages have arisen. In some legal settings, it is crucial to know within a corporate group which entity 'pays' for something, i.e. tracking an overcharge or tax through a value chain, as only an entity or subset of entities may have a basis to claim damages.

For example, an upstream purchasing subsidiary might have passed on all, some, or none of the price increase (or decrease) to its downstream sales subsidiary.[1] As well as the economic considerations regarding how one would expect a corporate to align its transfer prices, courts may be interested in factual evidence to determine the pass-on rates, by asking:

- which subsidiary negotiated the prices for the products in question, and which paid for it?
- on what basis did these costs remain at the upstream division, or on what basis were they passed on to the downstream division?
- how is the process above documented; when was it in place, and how regularly are price changes reflected in any transfer price process?
- have there been any exceptions?

The examination of internal pass-on may be particularly open to factual analysis because internal transfer arrangements are usually well documented and formalistic. Moreover, the relevant documents for both ends of a transaction will be in the control of the same corporate group, allowing for easier identification and matching of the required information. Such conditions will not usually apply in the consideration of external pass-on.

Source: [1] Transfer pricing—i.e. the prices at which divisions or subsidiaries of a company transact with each other—is often constrained by tax rules. It is often a legal requirement that transfer pricing is undertaken at arm's length.

Case law in damages cases

Recent European case law provides good examples of pass-on and volume effects in damages cases.

- In *TenneT v ABB*, a case involving high-voltage cables, the District Court Gelderland in the Netherlands denied pass-on, on the basis that any damages claims by the end-users (i.e. users of electricity) would be unlikely to be successful, and that they would benefit from compensation to TenneT as it is state property.[1] However, the Court of Justice Arnhem-Leeuwarden overruled this judgment, appointing three experts to review the complex issue of pass-on in the context of a regulated industry.[2]
- In various judgments relating to follow-on damages claims from the European Commission trucks cartel decision, regional courts in Germany have dismissed the pass-on defence, where the product in question (i.e. a truck) is not resold or not further processed before being resold, but instead used as an input for other services (i.e. haulage).[3] Similarly, in Spain, a court ruled that the claimant must operate in a market sufficiently close to that affected by the trucks cartel for the pass-on defence to apply.[4] However, (some) pass-on may yet be granted at later proceedings concerning the amount of compensation.
- In *Merricks v Mastercard*, the UK Court of Appeal overturned a decision by the Competition Appeal Tribunal not to certify a collective proceedings order. The judgment reflects on complex pass-on questions: assuming that acquirers have passed on Mastercard's multilateral interchange fees (MIF) to merchants, have these merchants passed on the MIF further downstream to their own consumers by raising retail prices, and, if so, by how much?[5] Interestingly, in *Sainsbury's v Mastercard*, damages were awarded on the basis that the retailer Sainsbury's did not pass on the MIF to its consumers.[6]

Sources: [1] *TenneT v ABB*, District Court Gelderland, case number 244194, 29 March 2017. [2] *TenneT v ABB*, Court of Justice Arnhem-Leeuwarden, case number 200.214.976, 29 May 2018. [3] Regional Court Hannover, case number 18 O 8 /17, 18 December 2017. Regional Court Stuttgart, case number 45 O 1/17, 30 April 2018. Regional Court Dortmund, case number 8 O 13/17, 27 June 2018. Regional Court Stuttgart, case number 30 O 33/17, 19 July 2018. [4] 318/2018 before the Juzgado de lo Mercantil Número 3 de Valencia. [5] Merricks v Mastercard, Court of Appeal (civil division) on appeal from the Competition Appeal Tribunal, neutral citation number [2019] EWCA Civ 674, 16 April 2019. [6] *Sainsbury's v Mastercard*, Court of Appeal (civil division) on appeal from the Competition Appeal Tribunal, neutral citation number [2018] EWCA 1536 (Civ), 4 July 2018.

How to determine volume effects

The same concepts apply when determining the volume effects following pass-on. That is, a business will have considered the overall impact on its profits before making a decision to pass on.

To calculate a volume effect, some degree of pass-on is required, otherwise one should expect no change in demand downstream (all else equal). The key questions are: what is the price elasticity, and what is the firm's counterfactual profit margin?

Answering these questions may not be straightforward. First, did all competitors raise their prices equally? If so, is the market-wide elasticity relevant or is it just the firm-specific elasticity because only one firm passed on (some of) the costs? In the latter case, the volume effect on the firm will arguably be larger as it loses directly to its competitors. Second, to turn the lost volume into a lost profit figure, it is the *counterfactual* profit margin that determines any damage, i.e. the profit margin in the absence of the cost shock. This number is arguably higher than the actual profit margin, but the difference may be small.[7]

Where to draw the line

Cost shocks may not affect just a single set of firms downstream—there can be a 'ripple effect' whereby others are affected further along the supply chain. In the case of an antitrust overcharge, this results in judges increasingly facing questions such as: how far along the supply chain can damages reasonably be awarded? To what extent should a damages claim upstream be reduced where pass-on is difficult to trace or measure?

The need to show a clear causal link between the infringement and the harm, and the lack of availability of consumer redress in many jurisdictions, places practical limits on the extent of the claims that can be brought. In economics terms, this presents a dilemma: applying a narrow cut-off for pass-on and effectively allowing claims to be brought only by direct or closely related indirect purchasers may result in *over-compensation* for such claimants. As such, awards would fail to account for the share of the harm that has been passed on more widely. On the other hand, it is usually infeasible that every firm or individual falling within the bounds of the ripple effect will bring a damages action. Including this ripple effect risks a situation in which only a small proportion of cartel overcharges and resulting volume effects can, in practice, be redressed through private damages actions.

Where to draw the line remains a matter for national judges and lawmakers to resolve. However, economic considerations can help inform practical and proportionate ways of managing these tensions. For example, when assessing the introduction of a tax that is collected by producers, wider economic impacts will be an important consideration for governments, as it is they that will ultimately determine what revenue will be raised from the tax. As the field of antitrust damages begins the task of applying the Commission's recent guidelines and the earlier Damages Directive to real cases, it is worth recalling that other areas of economic practice have insights of their own to pass on.

Contact:

Kimela Shah
Robert Lauer

[1] Oxera (2017), 'Shrinkflation! A bite missing?', *Agenda*, April, https://bit.ly/2Oo1TsM.

[2] Where a firm looks to reduce its other costs and find other efficiency savings, it could be argued that these efficiency savings could have been found anyway, before the cost shock. As such, we do not address this particular response to a cost shock.

[3] Pass-on may be higher than 100%—for example, it could be on a variable cost plus x% basis. See, for example, Oxera (2017), 'Vertical contracts and their effects on the passing-on of overcharges', *Agenda*, November, https://bit.ly/2YpOtvZ.

[4] 'European Commission (2019), 'Guidelines for national courts on how to estimate the share of overcharge which was passed on to the indirect purchaser', https://bit.ly/2JeduVz.

[5] *Marks and Spencer v HMRC* [2018] UKFTT 238, 10 April 2018.

[6] Simulation analyses are usually some of the most empirically complex to implement, but can be made more tractable where certain economic assumptions can be applied to the market. See, for example, Neurohr, B. (2016), 'A tractable cost pass-through benchmark', *Economics Bulletin*, **36**:3, pp. 1603–08.

[7] For example, suppose that before the infringement, a firm faces a cost of 10 for input X and a cost of 80 for all other inputs and production processes, i.e. a total cost of 90. Further suppose that the revenue is 100, so that the pre-infringement (i.e. counterfactual) margin is 10. Suppose now that input X faces a price increase of 1, i.e. the new input cost is 11, yielding a total cost of 91. Suppose that pass-on is 50%, so that revenue increases to 100.50. The during-infringement (i.e. actual margin) is then 9.50, so the counterfactual margin of 10 would not have been much larger.