

Agenda

Advancing economics in business

Drug abuse? The Commission, the sector inquiry, and generic entry

The European Commission has published its interim findings on the pharmaceutical sector inquiry. It reports that additional consumer savings of €3 billion could be made if generic entry were to occur immediately after patent expiry rather than being subject to delays. Is anti-competitive behaviour by originator companies responsible for delayed generic market entry? Could consumers benefit from changes in behaviour in the pharmaceutical sector?

The European Commission launched a sector inquiry in January 2008 into the pharmaceutical industry on the grounds of two indications that the sector may not be working effectively: fewer new medicines being brought to market, and the apparent delay in the entry of generic medicines.¹ In its preliminary report, published on November 28th, the Commission focuses on the latter of these two issues.²

To provide a reward for innovation and incentives for future research, newly launched medicines are usually protected by patents in the EU, which last up to 20 years.³ Once a medicine is off-patent, generic competitors can launch replica products onto the market, using the same active ingredients. These generic products are usually priced at a substantial discount to the original, branded, product. A large part of the turnover of both branded and generic companies is generated from a few 'blockbuster' drugs which achieve very high sales. The main finding of the European Commission's preliminary report is that additional consumer savings of €3 billion could be generated if generic entry were immediate rather than being subject to delays.

This article examines some of the main findings of the European Commission concerning the entry of generic medicines, and assesses whether the conclusion that generic entry is delayed can be supported by the evidence presented by the Commission. It also briefly considers the related question of whether the evidence put forward by the Commission is consistent with a high level of competition between producers of generic drugs.

The interim findings

The most significant effects of generic entry are on the average price level of a class of medicines and the sales

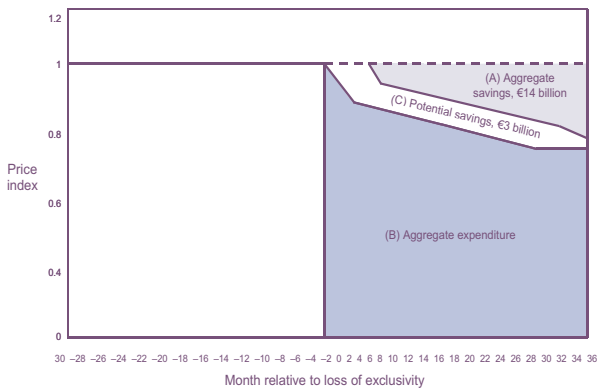
volume of the originating firm (the firm responsible for the initial development of the drug in question).⁴ The preliminary report draws on a selected sample of 75 top-selling 'international non-proprietary names' in three Member States (France, Germany and the UK) that lost protection between 2000 and 2007. On average, price levels for the sample decreased by almost 20% one year after the first generic company entered the market. Generic market shares were around 30% after one year, growing to 45% after two years.

A further key finding by the Commission is that there is a lag between the date of an originator's medicine going off-patent and the point at which generic companies enter the market. Generic entry occurred, on average, seven months after a product has gone off-patent, although, for the products with the highest sales in the Commission's dataset, generic entry occurred somewhat more quickly (four months after patent expiry on average).⁵ Figure 1 compares the effect on the price index with and without delayed market entry.

There were also significant variations between the Member States in the speed of entry. For example, the average time from patent expiry to entry was less than three months in the UK, Denmark and Finland, while it was more than one year in Luxembourg, Greece and Spain. This may indicate that there are certain regulatory or market-related factors at the national level that are increasing the length of delays in entry.

The preliminary report estimates that additional savings of €3 billion could have been made if generic companies had entered the market immediately upon loss of exclusivity of the originator medicine in 17 Member States during the period 2000–07. These savings are shown as area (C) in Figure 1. Area (B) represents the

Figure 1 Aggregate expenditure, actual savings with generic entry after seven months following loss of exclusivity, and potential savings if entry were immediate



Note: The price index is normalised to be the average price for the six months prior to patent expiry. Figure 1 is approximate and stylised.

Source: European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', Fact Sheet: 'Prices, Time to Generic Entry and Consumer Savings'.

average expenditure for pharmaceutical products which would have been expected had there been immediate generic entry. (B) + (C) is therefore the actual aggregate expenditure on pharmaceuticals which occurred in the Commission's sample. Medical expenses would have been €14 billion higher without any generic entry (area (A)); generic entry therefore reduced expenditure on medicines by approximately 5%.⁶

Originating companies are reported to have designed and implemented what the Commission terms a 'tool box' of strategies aimed at reducing further market entry from generic companies. The Commission states that this tool box includes a number of practices: strategic patenting, patent litigation, patent settlements, interventions before national regulatory authorities, and life-cycle strategies for follow-on products. The findings on these areas are dealt with below.

The Commission also presented a number of findings regarding competition between originator companies. It found that there were 'defensive patenting strategies', where patents are applied for, not to protect a product which the patent acquirer wishes to place on the market, but to patent inventions which the company considers to have little or no prospect of being placed on the market. For example, compounds that appear similar to a product which is to be placed on the market can be patented, even though there is no intention to include them in clinical trials, in the event that a competitor might find them to have similar pharmacological effects to the primary drug. The Commission also found, as with relationships between originator and generic companies,

that litigation is being used as a strategic weapon in interactions between originator companies.

Is generic entry delayed due to originating company strategy?

At the heart of the Commission's investigation lies the question of whether agreements between originator and generic producers, such as settlements in patent disputes, have blocked or led to delays in market entry.⁷ However, there are a number of reasons why entry may be delayed.

- **Patient switching costs.** There may be perceived switching costs for some patients, making generic entry less profitable and so acting as a barrier to entry by generic producers. For example, if a drug is for a chronic condition (and is thereby taken over a long period of time), consumers may be reluctant to change from their existing branded prescription to a generic prescription when there is generic entry. For such drugs, it could therefore take some time for generic producers to become profitable, as they may gain market share slowly.⁸
- **Regulatory intervention.** Even in the absence of strategic behaviour by originator companies (as set out below), there can be regulatory problems that lead to delayed entry. The preliminary report specifies that there are particular problems in obtaining marketing authorisations in a few countries which have especially heavy workloads (Germany, the UK, the Netherlands and Denmark), with delays of more than one year in some cases even in beginning to consider a product.
- **Reimbursement systems.** The preliminary report found that some countries' reimbursement systems impose conditions stricter than those for marketing authorisations. This means that even when marketing authorisation has been granted, there may be further regulatory barriers to overcome, creating delays in entry.

The estimate of potential additional cost savings (area (C) in Figure 1) is predicated on the assumption that market entry would occur immediately after patent expiry. This raises the question of what the appropriate counterfactual is, and whether immediate entry is the appropriate counterfactual for estimating the effect of originating companies' anti-competitive behaviour on generic market entry.

The preliminary report presents a detailed discussion of several practices by originator companies that the Commission considers may delay or block generic companies from entering the market.

- **Strategic patenting.** One finding is that originator companies file multiple patent applications for the same medicine, also known as ‘patent clustering’. It was found by the Commission that, for some drugs, a large number of patent applications were filed at a very late stage of the product life cycle, predominantly for blockbuster medicines.⁹ However, it is unclear how the Commission has determined what the competitive structure for patent applications is. There does not appear to be detailed analysis of whether there are factors other than anti-competitive behaviour that can explain the pattern of patent applications for drugs where many patents are applied for towards the end of the initial patents. Nevertheless, the Commission argues that patent clustering may create uncertainty for generic companies in terms of when they can enter the market without infringing one of the patents of originator companies.
- **Patent litigation.** The Commission also identified the initiation of litigation as a possible tool to delay or block generic entry. With more than 700 reported cases of patent litigation involving generic companies, which on average lasted nearly three years, such patent settlements are said to have delayed the entry of many generic drugs between 2000 and 2007. Of all litigations, 62% were won by generic companies. Again, it is important to compare the number and outcome of reported litigation cases with the appropriate counterfactual. That is, what would be the appropriate number of cases (both in absolute terms, and in the proportion won by generic producers) in a well-functioning market? The Commission does not yet appear to have settled on the level at which such a benchmark should be set.
- **Patent settlement.** The European Commission identified more than 200 settlement agreements to resolve patent disputes or opposition between 2000 and 2007. A large proportion of those agreements involved a value transfer from the originator to the generic firm in the form of a direct payment, a licence, a distribution agreement or a ‘side deal’. The marketing of generic companies’ medicines was restricted in 48% of cases. More than 10% of the settlement agreements involved ‘reverse payments’ from the patent holder to generic companies where generic companies agreed not to enter the market. These payments amounted to more than €200m.
- **National proceedings.** When generic companies apply for marketing authorisation or pricing and reimbursement status for their medicines, originator companies often intervened in national procedures, leading to an average delay of generic entry of four months according to the Commission.¹⁰ Originator

companies have argued, for example, that generic brands do not meet safety standards, or that the marketing authorisations and reimbursement status of generic brands violate their patent rights. The majority of these proceedings were won by the generic companies—for example, of 23 concluded interventions based on concerns around data exclusivity, all were won by the generic company. Again, as with previous elements of the tool box, the Commission does not appear to have identified what the level of such interventions would have been in the absence of any anti-competitive behaviour. Furthermore, it may be that such behaviour could in any case have been addressed by the regulatory system—for example, speeding up consideration of such complaints, or splitting patent issues from marketing authorisations.

- **Life-cycle strategies for follow-on products.** Originator companies launched follow-on products prior to patent expiry in 40% of the cases that were investigated for the purpose of the sector inquiry.¹¹ The launch of follow-up medicines could dissuade customers from switching to generic brands. This strategy would reduce the market share of generics only if customers preferred follow-on medicines to generic brands despite the higher prices. However, the launch of such brands may create uncertainty around the demand for a (non-identical) generic product, and so deter entry. The question for the European Commission and other regulators would be how to trade this possible effect off against the potential that the follow-on products may offer considerable improvements over earlier products.

However, delays in market entry may also occur due to factors other than the tools identified in the preliminary report. Stakeholders have made a number of comments on the appropriateness of the regulatory framework, suggesting further causes for delays in generic market entry.

- **Marketing authorisation procedures for generic entry.** Marketing authorisation decisions are taken on the basis of scientific criteria concerning the quality, safety and efficacy of the product concerned. Patents granted by the European Patent Office (EPO) are transformed into a bundle of national patents, which are enforced in each Member State separately. There is usually more than one patent on a product. Trying to obtain market entry for a generic product can therefore be very costly and time-consuming.¹² Moreover, companies, industry associations and agencies reported bottlenecks in the marketing authorisation procedures, which could lead to delays and administrative burdens.¹³

- **No unified judiciary.** Generic respondents to the preliminary report highlighted that the courts of different Member States often take divergent views on the validity or scope of the same European patent. There are also conflicting conclusions on the validity of a patent resulting from the EPO's opposition and appeal procedures, and from national courts. A rapid uniform binding ruling on the validity of a patent throughout Europe could lower the costs for generic companies. The slow process in many Member States causes further delays in the market entry because of patent disputes.
- **Regulatory pricing and reimbursement schemes.** The decision-making procedures of pricing and reimbursement authorities in some Member States, and additional requirements for obtaining pricing and reimbursement status for generic medicines, may cause delays in generic entry. Pricing and reimbursement authorities in some Member States require absolute equivalence.¹⁴

The preliminary report identifies a number of originators' strategies that could have delayed generic market entry. It is, however, more difficult to establish a causal link between delays in generic market entry and originator companies' anti-competitive behaviour. This analysis would require an identification of the correct counterfactual scenario.

Is the effect of generic entry on average prices large enough?

The preliminary report finds that generic companies initially set their prices at a level that is on average 25% lower than originators' prices before patent expiry. Their prices drop to a level of 60% of the (pre-entry) price of the originator drug over time.¹⁵ However, are prices for generic brands set at a competitive level? Area (A) in Figure 1 would be even larger if prices for generic brands dropped by more than 60% over time.

Analysing this question starts from the basic observation that underlying average costs for generic products would be expected to be significantly lower than for patented products. The intuition behind this is that generic companies' overall R&D expenditure is much lower than for originator companies, consisting largely of R&D for biosimilar drugs.¹⁶

Moreover, a significant part of generic companies' turnover is generated from medicines equivalent to blockbuster products whose patents have expired, implying that the risks of launch are considerably lower than for originator companies, since there is limited

underlying demand risk for the product. There are also no (or limited) costs incurred from unsuccessful R&D, as it has already been determined that the compound being researched is safe and effective. Marketing expenditure constitutes the largest share of generic companies' costs.¹⁷ All this suggests that the market for generic medicine has some of the characteristics of a commodity market where the expected risk, and consequently level of return in a competitive market, are smaller than for originating companies. It is thus reasonable to expect a significant drop in prices for generic brands.

The preliminary report shows that there are large variations in the price reductions after generic entry between Member States. For example, in Sweden, prices were reduced by more than 50% after the first year after patent expiry, while prices for generic and originator brands were almost identical in the Netherlands two years after patent expiry. Against this background, it may be necessary to investigate the underlying reason for why those price reductions after generic entry vary within the EU. The European Commission has given little consideration to this topic in its preliminary report. In addition, it has not yet assessed what it would consider to be an appropriate price level for generic drugs against which to benchmark the observed price reductions, given that their cost structure is very different to that of originator products.

Conclusion

The European Commission's preliminary report presents an extensive review of the effect of delayed generic market entry on medicine bills. It finds that there are a number of practices pursued by originator companies which may have the effect of strategically delaying entry by generic producers, or, indeed, competition from other originator companies. Most of these strategies arise from the interaction between the patent system and competition policy; these systems also often conflict with each other in other sectors. However, the behaviour of pharmaceutical companies could also be seen as having more pro-competitive explanations in many cases; the Commission does not yet appear to have identified relevant counterfactuals that would allow an assessment of whether the behaviour is wholly or predominantly due to anti-competitive conduct.

Moreover, it is important to clarify whether delays in market entry could be addressed by competition policy or if there are other policy options, such as the creation of a more efficient patent litigation system in Europe, which could be more appropriate.

The Commission is due to publish its final report in 2009.

¹ See <http://ec.europa.eu/comm/competition/sectors/pharmaceuticals/inquiry/index.html>.

² European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', November 28th. See also in this issue of *Agenda*, 'Competition Law in Pharmaceuticals: A Moving Target?'.
³ This may be extended in certain circumstances by up to five years through the use of supplementary protection certificates.

⁴ European Commission (2008), *op. cit.*, p. 72.

⁵ European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', Fact Sheet: 'Prices, Time to Generic Entry and Consumer Savings'.

⁶ European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', November 28th, p. 8.

⁷ See <http://ec.europa.eu/comm/competition/sectors/pharmaceuticals/inquiry/index.html>.

⁸ It is important to bear in mind that medical professionals may be able to offset this to some extent, either by informing patients of the essential similarity of the two drugs, or by simply changing the patients' prescription to be for the new generic product.

⁹ European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', Fact Sheet: 'Originator–Generic Competition'.

¹⁰ <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1829&format=HTML&aged=0&language=EN&guiLanguage=en>

¹¹ A follow-on product is one which is a second-generation of a product, improved in some way but offering the same basic active ingredient.

¹² European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', November 28th, p. 86.

¹³ *Ibid.*, p. 389.

¹⁴ *Ibid.*, p. 394.

¹⁵ *Ibid.*, p. 78.

¹⁶ 'Biosimilar' is defined as a product which has been approved by the relevant marketing authorisation agency as being comparable to a particular biopharmaceutical. See European Commission (2008), 'Pharmaceutical Sector Inquiry: Preliminary Report', November 28th, p. 42.

¹⁷ *Ibid.*, p. 43. No data is provided on what proportion of generic companies' costs are marketing-related.

If you have any questions regarding the issues raised in this article, please contact the editor, Derek Holt: tel +44 (0) 1865 253 000 or email d_holt@oxera.com

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