



Mergers and Dynamic Efficiencies

What are dynamic efficiencies?

Why are dynamic efficiencies important?

Why have they played a minor role?

How can they be measured?

Where do we go from here?

For further information

For further reading

Where to contact us?

Introduction

When two businesses join to form one company, their combination sometimes creates positive effects called efficiencies. Generally speaking, efficiencies are synergies that enable firms to improve their performance, whether in terms of cost, quality, service, or the variety of products or services they offer. Some efficiencies are of a one-off or “static” nature while others are recurring or “dynamic”, but all of them are good for the welfare of society. Mergers may also raise concerns, however, related to market power and reduced competition. Merging companies sometimes argue that even though their proposed union may lessen competition, any resulting harm will be more than offset by the efficiencies that the merger would generate.

Efficiencies remain a thorny issue in merger analysis. Despite growing interest in efficiencies since the 1970s among competition authorities and courts, there has been a persistent reluctance to incorporate them in merger analysis. That reluctance is even greater with respect to dynamic efficiencies than it is with respect to static ones. The reason is that even in a static analysis, determining whether a merger is likely to lead to efficiencies and how they will compare with any anti-competitive effects the merger is expected to cause is quite difficult. Making the leap to predicting a merger’s dynamic effects is much harder still because the benefits may be more abstract in nature and will occur repeatedly – if at all – across time periods that are largely well into the future. Nevertheless, a growing body of commentators is asserting that enforcement agencies should pay more attention to dynamic efficiencies and less attention to short-run price effects, especially in markets where consumers have more to gain through innovation than through lower prices on existing products.

This *Policy Brief* explores some of the thorny issues that competition agencies confront when presented with arguments about dynamic efficiencies and looks at the desirability and difficulty of placing more emphasis on dynamic efficiencies in merger reviews. ■

What are dynamic efficiencies?

Mergers typically can produce two types of efficiency gains – static and dynamic. *Static efficiencies* are those which occur only once – going from two managing directors to one; or eliminating some production sites because both firms had plants that were running well below capacity levels.

The distinguishing feature of *dynamic efficiencies* is that they have recurring effects, which considerably enhances their potential impact on performance. In general, dynamic efficiencies are synergies that enable firms to improve their performance on a potentially continuing basis. Efficiencies that enhance the ability or incentive to innovate, for example, are considered dynamic. Learning by doing, eliminating redundant research and development expenditures, and achieving economies of scale in research and development (R&D) are all examples of dynamic efficiencies (see Box 1).

Perhaps the most basic dynamic efficiency is learning by doing. This simply means that firms get better at what they do by gaining experience doing it. Over time, they may learn new ways to minimise their costs or make improvements to their products. Mergers can accelerate this process.

Several potential dynamic efficiency gains promote R&D and innovation. The most basic is eliminating duplicative R&D. If two firms are devoting resources to the same research, there is an obvious potential for cost savings if they merge. If the combined firm uses those savings to fund other innovation efforts, dynamic efficiencies may result. There are some pitfalls in such claims, though. First, although the two companies may have been trying to reach the same end result, they may have been going about their research in different ways. Since one of those ways may turn out to be superior to the other, there might be some value in keeping the two programmes separate and funding both of them rather than risk eliminating the wrong programme. It is therefore important to verify that the two research projects are truly duplicative, not just in objective but in method. Second, it is possible that competition that will be lost as a result of the merger was a driving force behind the two companies' research efforts. If so, the merged firm may lose some or all of its incentive to continue the research, or it may opt to pursue it less aggressively.

Box 1. DYNAMIC EFFICIENCIES

Mergers can create a number of dynamic efficiencies, many of them linked to research and development (R&D) or innovation. Some of the most significant are:

Learning by doing.

Eliminating duplicative R&D.

Economies of scale and scope in R&D.

Improving the spread of R&D risk.

Better intellectual property rights (IPR) enforcement.

Increased financial resources to fund R&D.

There is also potential for economies of scale and scope. When two companies' research programmes are combined, their R&D assets might accomplish more than they would have if the programmes had remained separate. For example, one programme might benefit from gaining access to a certain piece of equipment that the other company's lab has but that the first company would have considered too expensive for it alone to buy. Unless the first company's programme is keeping that equipment in use around the clock, there will be an opportunity to use it more fully after the merger. Alternatively, the two programmes together might be able to use a new research tool enough to justify purchasing it, whereas neither company would have bought the tool for itself alone. Another possibility – and probably the most frequently occurring one – is that the two companies have complementary R&D assets and can reduce transaction costs by merging.

If both of the merging parties are currently profitable, they may perceive a lower risk for each contemplated R&D investment because those investments can be spread over a larger revenue and income base, thereby lowering the relative impact of failures on the combined company. That, in turn, may give the merged firm a greater incentive to fund R&D projects.

And mergers may improve protection of both firms' intellectual property rights (IPR). Small firms are less likely than larger firms to have the resources necessary to fund legal actions aimed at protecting their patented processes or products. Research has shown that the fewer patents a firm owns, the less likely it is to file a lawsuit to enforce its patent rights and that this effect is stronger for smaller firms. This phenomenon is not helpful to the incentives that small firms have to innovate. Consequently, when a merger enhances the merging parties' ability to enforce their IP portfolios, their incentives to innovate may increase, too.

A merger may also result in more money being available to pay for R&D. When firms combine their financial resources they may undertake more research projects for a variety of reasons. As a larger entity, the combined firm may find that it has greater access to capital markets or is able to borrow money at lower interest rates. With a lower cost of capital, the firm may be able to afford more research projects in general. If so, it may invest more money in its research equipment, facilities, and personnel. It may also be willing to fund projects with somewhat lower expected returns than the individual parties would have been willing to fund. Furthermore, if the merger involves a large company with plenty of cash on hand and a smaller, research-oriented firm without much capital, the whole point of the merger may have been to fund the smaller firm's work – especially if the larger firm is uniquely situated to understand and estimate the potential value of the smaller firm's ideas.

It is not a good idea to assume that any of these effects will happen in every case. Instead, the better course is just to bear them in mind as possibilities in a fact-based, case by case approach. The reason a blanket presumption is unwarranted is that it is not clear that greater firm size generally causes more innovation. Some studies have shown that R&D activity does rise in proportion to firm size, but only up to a point. Others indicate that firm size is merely correlated with R&D, not causally related to it, and that other factors such as the level of competition and technological opportunity are more powerful drivers of R&D activity. Still others show that large firms are no more productive than smaller ones in terms of patent output, which is one possible measure of innovation. ■

Why are dynamic efficiencies important?

Over time, the benefits of dynamic efficiencies may outweigh those of static efficiencies even if the latter are initially larger. Innovation – a key dynamic efficiency that is sometimes bolstered by mergers – is vital to economic growth and welfare. Professor Joseph Brodley of Boston University has said that efficiency resulting from innovation “provides the single most important factor in the growth of real output in the industrial world”. The OECD has likewise concluded that innovation is responsible for most of the increase in material standards of living that has taken place since the Industrial Revolution. Dynamic efficiencies have a considerably greater potential to benefit consumers than static efficiencies. Therefore, it would be desirable – in an ideal world – for dynamic efficiency considerations to feature more frequently and more prominently in merger decisions. The problem is that no one has yet figured out a robust way to do that, and rather than engage in speculation, agencies and courts have tended to avoid dynamic efficiency analysis. ■

Why have they played a minor role?

At one time, courts and competition enforcement agencies tended to view merger efficiencies as either irrelevant or as a basis for blocking transactions. It was believed that large combinations were likely to be harmful regardless of any arguments that could be made about their actual economic effects. A significant change in economic thinking about efficiencies began in the 1970s and it has influenced competition policy in an increasing number of jurisdictions in recent years. Competition authorities and courts have gone from ignoring efficiencies or even being hostile toward them to appreciating their value to society. Today, efficiencies are commonly viewed as factors that favour allowing mergers rather than disallowing them.

In spite of the greater respect now given to efficiencies, instances in which they play a substantial role in merger analysis remain uncommon, particularly in court decisions. The problem is not so much that courts still think efficiency-enhancing mergers are bad for competition, but that it can be difficult to gauge the efficiencies themselves. Determining whether a merger will lead to static efficiencies and how such efficiencies measure up

against any anti-competitive effects that the merger is expected to cause can be very challenging. Dynamic efficiencies pose an even greater measurement problem because dynamic effects will occur – if at all – repeatedly, well into the future, and they may be more abstract in nature than static effects. Courts have shown a tendency to avoid delving into such exercises whenever possible. ■

How can they be measured?

Several types of complication may arise when one tries to assess dynamic efficiencies. For example, “apples-to-oranges” comparison problems may come up under a standard that focuses on price effects. A merger may cause prices to rise soon after consummation but it may also bring about dynamic efficiencies that have positive non-price effects such as benefits from new or improved products in the longer term. That puts investigators in the awkward position of needing to compare different concepts from different time periods – and possibly from two or more different markets with different sets of consumers. This presents a complex quantification problem. How much quality enhancement or how many new products for some customers would be enough to compensate for a given expected price increase affecting other customers? It may be difficult or even impossible to answer such questions. There is also a host of complicating factors related to innovation. There is almost always uncertainty about how much innovative activity will cost, how long it will take and the likelihood and extent of its commercial success. But there are also difficulties in measuring innovation itself, the problem of how to conceptually transform innovation into some measure of welfare, and the difficulty that the merging parties may be in possession of more or better information than the enforcement agencies.

Virtually all OECD jurisdictions place responsibility for providing evidence of the existence and adequacy of efficiencies on the merging parties, but they are not necessarily going to be able to prove their claims, either. Competition agencies usually consider a number of factors when assessing information submitted in support of efficiencies claims. These factors include whether there are reasonable alternatives to the merger that would be likely to achieve the same efficiencies while being less anticompetitive (“merger-specificity”); whether at least some of the benefits of the efficiencies will be passed on to consumers, and whether the efficiencies will lower fixed or variable costs, with a preference for variable cost reductions. Other considerations include likely effects on other markets and the degree to which the efficiencies are quantifiable, substantial, and timely.

The “timely” factor is particularly significant for dynamic efficiencies, as they may take more than a few years to materialise. The farther out into the future the prediction of benefit is, the harder it will be for parties to provide satisfactory evidence that the benefit will appear. Not only will competition authorities apply a discount factor to the claimed future benefits, but in general they will treat the likelihood of such benefits as increasingly

speculative the further into the future they are expected to arrive. That leads to another consideration – verifiability. Agencies typically examine whether there is sufficient information to verify by reasonable means the claimed efficiencies' likelihood and magnitude.

Due to their complexity, it appears that dynamic efficiencies will rarely be measurable in quantitative terms, so some agencies focus on qualitative approaches, which may provide more useful results.

The Merger Enforcement Guidelines issued by Canada's Competition Bureau, for example, indicate that the Bureau generally examines dynamic efficiencies from a qualitative perspective. Much can be learnt by studying how well the merging parties have integrated with previous merger partners, how adept the companies have been at turning R&D into successful innovations, and whether any of their innovations are attributable to synergies from past mergers. Studying characteristics of the relevant industry – particularly what encourages innovation and whether the merger will help the combined firm to capitalise on those factors – can also be helpful. Finally, whether the merger will combine substitute or complementary technologies is a relevant factor because R&D efficiencies tend to be stronger when complementary technological assets are combined. Therefore, one way to promote the realisation of those efficiencies is to take a lighter approach toward vertical and conglomerate mergers. ■

Where do we go from here?

The fact that dynamic efficiencies have historically been largely ignored by courts and agencies may have affected relatively few mergers, for a number of reasons. One of those reasons is that merging parties themselves have tended to ignore dynamic efficiencies when drawing up a list of likely benefits from the transaction. A number of competition agencies have never been confronted with a case in which the parties attempted to make an argument for their merger based on dynamic efficiencies.

Several agencies hold the view that even when parties do present such arguments, alleged efficiency gains of any type are rarely large enough or credible enough to overturn a finding that competition would otherwise be substantially lessened. Some empirical studies have concluded that it is actually unlikely that most mergers enhance efficiency. Furthermore, some agencies believe that the vast majority of mergers that are likely to produce significant dynamic efficiencies do not raise substantial competitive concerns in the first place and thus are unlikely to be challenged. Specifically, the “safe harbours” (concentration thresholds) built into most merger guidelines tend to spare mergers that combine firms with complementary as opposed to overlapping assets. It has been argued, therefore, that the number of cases in which dynamic efficiencies are impeded by regulatory intervention is quite limited.

Nonetheless, the issue ought not to be considered unimportant, either. Finding ways to go about assessing dynamic efficiencies methodically and accurately is a worthy topic for ongoing research. In the meantime, it appears to be a largely intractable problem. There simply are no easy answers. Although some steps can be taken to understand these efficiencies better, such knowledge will probably come slowly and in any event it is unlikely to make a quantitative approach possible. ■

For further information

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For further reading

OECD (2008), **Going for Growth**, ISBN 978-92-64-03591-1; € 57, 162 pages.

OECD (2008), **Competition, Patents and Innovation**, (Best Practices Roundtable), available for free download at:
www.oecd.org/dataoecd/26/10/39888509.pdf.

OECD (2004), **Merger Remedies**, (Best Practices Roundtable), available for free download at: www.oecd.org/dataoecd/61/45/34305995.pdf.

OECD (2002), **Merger Review in Emerging High Innovation Markets**, (Best Practices Roundtable), available for free download at:
www.oecd.org/dataoecd/40/0/2492253.pdf.

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