# Q4 TO WHAT EXTENT IS A MERGER BETWEEN TWO BIG FIRMS BENEFICIAL TO CONSUMERS?

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## 1. Introduction

In the contemporary economic landscape, enterprise mergers serve as a pivotal mechanism for resource allocation and market structure adaptation, significantly influencing the reshaping of market dynamics and consumer welfare. This paper aims to examine the dynamic impact of company mergers on consumer interests within diverse market structures. To delve into this issue, we will utilize the fundamental concept of profit maximization in economics—marginal revenue equals marginal cost (MR=MC)—as our theoretical framework. Furthermore, we will integrate game theory models to unveil the economic rationale behind merger activities and their potential implications for consumer well-being. Additionally, our analysis will encompass an exploration of potential synergies, barriers to market entry, and shifts in consumer surplus post-merger, providing a comprehensive examination of the economic ramifications associated with mergers.

## 2. Market Structure Theory and Mergers

The market structure of the United States is characterized by diversity. The agricultural products market, including wheat, corn, soybeans, etc., operates under nearly perfect competition with foreign exchange. This market is comprised of numerous farmers and

traders, and prices are determined by market forces. Conversely, monopolies are prevalent in the utilities and railways sectors. In many regions, a single company holds a monopoly over utilities such as electricity, gas, and water. For example, certain power companies like Duke Energy have monopolies in specific areas within some states.

Aviation and telecommunications represent oligopolistic markets in the United States. The American aviation industry serves as a typical example of an oligopolistic market where a few major airlines (e.g., Delta Air Lines, American Airlines, United Airlines, Southwest Airlines) control the majority of the market share.

[1]In a perfectly competitive market environment where enterprise mergers can promote economies of scale through expanded production, scale optimization processes and technological innovation leading to reduced marginal costs (MC), this cost reduction will be reflected in the marketplace allowing companies to lower prices while maintaining or increasing production levels. Lower prices will enhance consumer purchasing power and real income thereby improving consumer welfare. Additionally, economies of scale may also lead to improved product quality and increased diversity thus better meeting diverse consumer needs.

However, in monopolistic and oligopolistic markets, the situation differs significantly. Because firms in such markets possess market power, the individual firm has a downwards sloping demand (AR curve) and MR curve. Their optimization problem will typically result in restricting output and raising prices up to the point where MR=MC in order to profit-maximize.

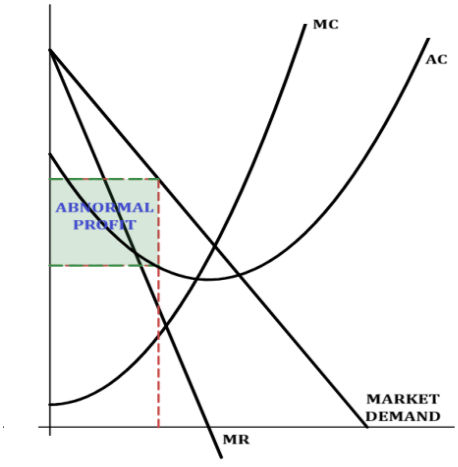



*Figure 2: Abnormal profits of monopolies*

When companies merge, they gain increased pricing power and can optimize

profits through measures such as reducing production and raising prices. However, this may come at the expense of sacrificing consumer welfare.

## 3. Welfare Effects of Price Rises and Low Competitiveness

When there is sufficient market power, the merged firm aims to maximize profits by establishing an equilibrium output point where marginal revenue (MR) equals marginal cost (MC). This equilibrium often leads to higher market prices and lower consumer surplus (CS).

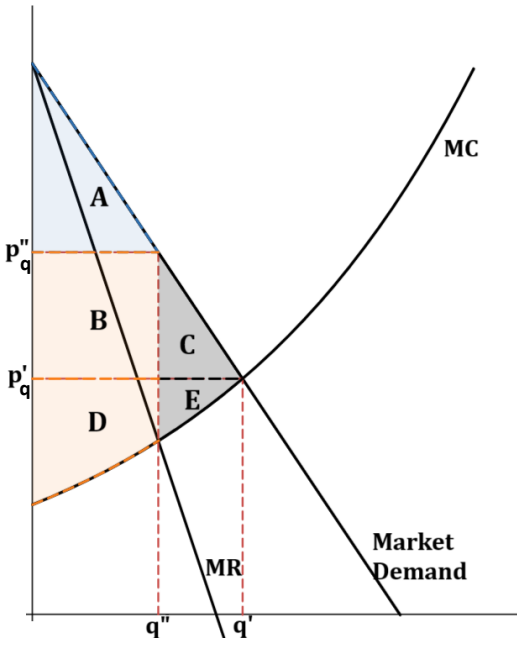



*Figure 1. Rising market prices affect consumer surpluses*

At the competitive equilibrium, ($p_q$',$q$') the total consumer surplus is equal to areas A+B+C. Under a monopoly, the firm's profit maximization problem given its ability to contract output and raise prices gives a new equilibrium at ($p_q$",$q$"), reducing consumer surplus to area A and resulting in a deadweight loss of C+E.

For the individual consumer, the compensating variation (CV) following the increase in price is a useful analytical tool for analyzing their change in welfare. It measures how much additional income the consumer would hypothetically need to be given under the new higher prices to restore their original utility level. Given that only once price has changed, this can be expressed as an integral:

$$CV = \int_{p_q'}^{p_q"} h_i(\boldsymbol{p}, \bar{u})dp$$

where $h_i$ is the $i^{th}$ consumer's Hicksian demand for the good, $\boldsymbol{p}$ is a vector of prices (of which $p_q$, the price of the good in Figure 1, is an element) and $\bar{u}$ is the original level of utility. Because $h$ is determined by the individual's preferences, the value of CV would vary across individuals, and should be larger than the change in CS for a normal good i.e.,

$$\int_{p_q'}^{p_q''} h_i(\boldsymbol{p}, \bar{u})dp > \int_{p_q'}^{p_q''} q_i(\boldsymbol{p}, m)dp$$

where *m* is the consumers' income.

This is useful as it measures welfare from the perspective of income and is perhaps more revealing about changes in individual consumer welfare when analyzing mergers – for certain goods and services which a consumer spends a large proportion of their income on, a price hike following a merger would require larger monetary compensation than for other goods, as the utility level under old prices would be higher, meaning the value of the integral for CV is also higher. Furthermore, the contraction in CS would be relatively smaller than the increase in CV. Thus, the nature of the market along with consumer preferences should be considered when analyzing the welfare effects of mergers.

Consider the following utility function representing Cobb-Douglas preferences for the *i*$^{th}$ consumer:

$$u_i(q_i, y_i) = {q_i}^{\alpha} {y_i}^{1-\alpha}, 0 < \alpha < 1$$

Where $q_i$ represents the quantity of the good in question and $y_i$ represents all other goods. $\alpha$ captures the proportion of income spent on good $q$ and take $p_q$ and $p_y$ as the unit price of good $q$ and the average unit price of all other goods respectively. Solving the consumer's problem of maximizing utility given income *m*, the (Marshallian) demand for good $q$ is given by:

$${q_i}^*(\boldsymbol{p}, m) = \frac{\alpha m}{p_q}$$

The solution to the dual problem, minimizing expenditure given a fixed level of utility, $\bar{u}$, gives the Hicksian demand function:

$$h_i(\boldsymbol{p}, \bar{u}) = \bar{u}\left(\frac{(1-\alpha)p_q}{\alpha p_y}\right)^{\alpha-1}$$

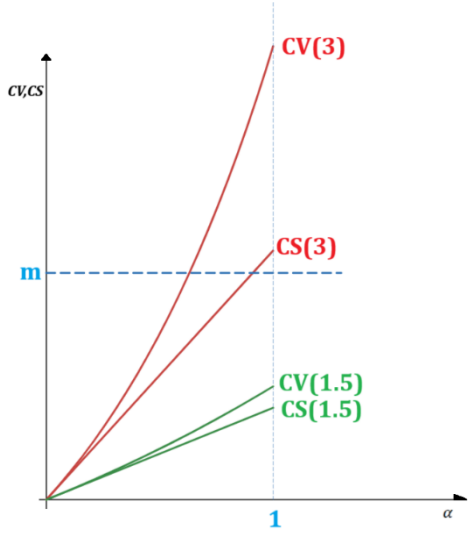
Using this, the CV and change in consumer surplus can be computed, for price of good *x* increasing from $p_q{}'$ to $p_q{}''$:

$$\Delta CS = \alpha m ln\left(\frac{p_q{}''}{p_q{}'}\right)$$

$$CV = m\left(\frac{p_q{}''}{p_q{}'}\right)^{\alpha} - m$$

As these both depend on price ratios, it makes comparisons as $\alpha$ changes easy to make. If the proportion of income spent on the good is high, the total amount of income compensation the consumer requires is also high. Furthermore, the difference between the

CV and CS values becomes large.




$$Drawn\ for\ \frac{p_q{}''}{p_q{}'} \in \{1.5, 3\}$$

As the percentage increase in price rises, the value of CV rises, and its rate of increase becomes larger when $\alpha$ is larger. The difference between CS and CV also rises, and this is more pronounced the closer $\alpha$ is to 1. Thus, CS can mask the magnitude of the impact on certain consumers, particularly if their demand is relatively inelastic.

Higher prices because of mergers in certain industries would be particularly harmful to such consumers. Conversely, for a good where $\alpha$ is low, even if prices rise the welfare effects are in terms of income are limited, and almost indistinguishable from a surplus measurement. Similar analysis could be extended to a fall in prices.

## 4. Case Study: Impact of Mergers in Different Market Structures

AT&T, the second-largest telecoms operator in America, has acquired Time Warner, a media giant, for $107.50 per share, totaling $85.4 billion in equity. The acquisition consists of half cash and half equity, along with Time Warner's $22 billion debt, bringing the total to $108.7 billion.

This vertical integration is deemed valuable for AT&T; however, it raises significant concerns about potential monopolistic behavior that could limit the competitiveness of other content distributors (such as Netflix and Hulu) and result in higher content prices.

A merged company may strategically set pricing and distribution strategies to maximize profits by aligning marginal cost with marginal revenue. In the absence of competition, this behavior could lead to prices higher than those in a competitive market equilibrium and negatively impact consumer welfare.

Consequently, the Justice Department filed a lawsuit in District Court in Washington on grounds that the $108 billion acquisition would substantially diminish competition and innovation while potentially increasing costs for American consumers.

In response to these concerns, AT&T CEO Randall Stephenson stated that their planned OTT TV service launch next month will be priced at just $35 per month as an example that acquiring Time Warner will not result in increased service prices. The economies of scale resulting from the merger have led to reduced product pricing which benefits consumer surpluses. As this is not a good on which consumers spend a large amount of their income on, the monetary value of this rise in CS is similar to an income measurement of welfare.

Simultaneously, there is concern that the combined company may prioritize promoting its own content over competitors', potentially limiting content choices for consumers—particularly on AT&T's web platforms. This merger strengthens AT&T's market power and could create barriers to entry for new competitors entering the market further reducing competition and potentially harming consumer welfare.

In game theory, there exists a "prisoner's dilemma." In a monopolistic or oligopolistic market, a merged company may establish an implicit pricing strategy with a few other large companies, leading to "cooperation" that ultimately maintains high prices by reducing competition, to the detriment of consumers. Makan Delrahim, the assistant attorney general for antitrust at the U.S. Department of Justice, believes that there are insufficient remedies to prevent potential harm in such situations.

[3]Despite this concern, AT&T ultimately prevailed in court and the merger proceeded. This case highlights the legal and economic complexities surrounding monopolies and the challenges of government intervention in managing business mergers.

Another example is seen in the 2007 merger of two mid-sized agricultural businesses in the Associated British

Foods (ABF) and British Sugar. Despite their relatively small market share, the newly combined company continues to produce and sell Food as well as other goods.

As the UK food market operates under perfect competition principles, the merger between British Sugar and ABF has not significantly impacted market prices. The presence of numerous producers and buyers ensures continued competitiveness within the market. While efficiency improvements resulting from joint operations benefit both companies through better purchasing terms for inputs or reduced production costs due to economies of scale, these internal enhancements do not exert significant influence on overall market prices since they are determined by aggregate supply and demand dynamics.

Consequently, it can be concluded that this particular merger did not substantially alter competitive structure or market prices within the UK Food industry. For consumers, this means that they continue to operate within a highly competitive environment where businesses must transact at prevailing market rates without any risk of facing inflated prices or diminished choices.

## 5. Overall Impact of Mergers on Consumers

The market structure, along with the preferences of individuals, plays a crucial role in determining consumer well-being in merger cases. While mergers may lead to improved production efficiency, they also pose the risk of causing market failure. Various countries' laws and governments have actively implemented diverse intervention measures, but the degree and method of intervention vary according to national conditions, market characteristics, and policy orientation, resulting in different actual effects. Some countries have effectively curbed the monopoly trend brought about by mergers and protected consumers' rights and interests through careful supervision and anti-monopoly laws. In contrast, inadequate or excessive intervention in other countries may have failed to achieve the desired effect. Future studies should analyze these differences

comprehensively to provide a reference for establishing a more rational and effective global antitrust system.

[1] Muhamed, N. , & Magdy, Y. . (2020). Market Structure Analysis (perfect competition, monopolistic competition, monopoly, oligopoly).

[2] (2016, October 24). *AT&T (T) to Acquire Time Warner in $85.4 Billion Mega Deal*. Yahoo Finance. Retrieved August 30, 2024, from https://finance.yahoo.com/news/t-t-acquire-time-warner-131101570.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuYmluZy5jb20v&guce_referrer_sig=AQAAAH6sPuq8e6oX3r493J4-cKhY9regTaMHbZ0-3pD-yjcPI8RR_n4B5V9-kEzTYbzxwOhiJ6pHqrGsCNIo1vwV5q5KKuC_kdrwwxvr43FqXegsnm6OspQ8Ag-idDwerYHul6A_hGDRwM6LMpp4LWx8SNAO3ZGKEgOMZ_gDZNAxcGQ3

[3] Reilly, B. . (2022). At&t logs first demo of nbc network to enable navy's 'smart' warehouse. Inside the navy.