Unlike in the case of policy concerning horizontal mergers, there is no consistent economic approach underlying policy on vertical mergers. For vertical integration as such, no theoretical basis exists which is comparable to the concentration collusion-doctrine in horizontal merger cases.\textsuperscript{1} Thus far, antitrust policy has been concerned primarily with the tendency of vertical integration in general and vertical mergers in particular to generate anticompetitive effects by the "establishment of relationships between buyers and sellers which deprive their rivals of a fair opportunity to compete".\textsuperscript{2} Under the 1968 Merger Guidelines the U.S. Department of Justice challenged cases in which the upstream firm held 10\% or more of its market and the downstream firm 6\% or more and a foreclosure of roughly 10\% of customers or sources of supply.\textsuperscript{3}

Recent research has focused on comparisons of the costs arising from the use of different mechanisms for the mediation of economic activities and has emphasized possible economic advantages of contractual ties which lead to cost savings in comparison to other linkages.\textsuperscript{4} This has led to a strong notion among economists that vertical arrangements in general and vertical mergers in particular are efficiency-enhancing, carry little or no anticompe-


\textsuperscript{2} House of Representatives Report No. 1191, 81st Cong., 1st Sess. 1949, p. 8. This was operationalized by the Courts through the notion of foreclosure which we will deal with infra: "The primary vice of a vertical merger ... is that by foreclosing the competitors of either party from a segment of the market otherwise open to them, the arrangement may act as a clog on competition, which deprives the rivals of a fair opportunity to compete" (italics supplied), Brown Shoe v. U.S., 1962 CCH Trade Cases § 70,366, p. 76,492.


tive effects and, therefore, should not be considered (per se) illegal. The possible occurrence of both desirable efficiency effects as well as undesirable anticompetitive effects makes necessary an economic trade-off between these two effects.

With regard to the evaluation of vertical mergers, three important questions thus arise, which we will try to answer in the subsequent course of the inquiry. In this context, we have to determine
- to what extent the transactions-cost approach may serve as an adequate basis for an evaluation of efficiency-effects of vertical mergers;
- how serious and how likely the anticompetitive effects are that are anticipated from vertical mergers under certain conditions; and
- whether we are able to determine at what point vertical mergers become anticompetitive in order to formulate administrative rules or presumptions reasonably precisely?

I. Vertical Integration and Efficiency-Enhancement

Under the conventional microeconomic assumption of zero costs of operating competitive markets, vertical integration, and hence the existence of intra-company coordination of economic activities, poses an anomaly since there is no incentive to integrate under competitive conditions. Cost savings due to technological linkage in the production process constituted the principal exception to this view. The underlying reasoning is that "successive processes which, naturally, follow immediately in time and place dictate certain efficient manufacturing configurations; these, in turn, are believed to have common ownership implications," and hence pose an incentive to integrate.


6 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1000a. As has already been emphasized, this is a general problem in economics, cf. again Herdzina, Klaus, Wettbewerbspolitik, 2nd ed., Stuttgart 1987, pp. 35 ff.

7 Cf. Williamson, Oliver E., The Vertical Integration of Production: Market Failure Considerations, 61 AER (1971), pp. 112-123, 112.

Nevertheless, this approach was not seen to suffice in explaining why economic entities would integrate some of the market activities. Disagreeing with the technological interdependencies approach, Coase stated that it was due to "costs of using the price mechanism" that economic entities had an incentive to integrate some of the market activities to be carried out at lower costs by a joint organization.

1. Transaction Costs and Different Mechanisms for the Organization of Economic Exchange

a. Economic Exchange via Markets: Costs of Using the Price Mechanism

The vertical component of productive efficiency is associated with the transaction-cost advantages that are generated from vertical integration. The coordination of economic activities and the allocation of economic resources can be carried out by different mechanisms. According to the profit maximization principle advocated by adherents of the current tenet, the firm will choose the most advantageous mechanism. If the coordination is carried out by using the market mechanism, transaction-costs arise since the use of price as an instrument of coordination is assumed to entail costs. According to the original approach presented by Coase, transaction-costs consist of several components:

- **search and information costs**, due to the fact that the production of relevant data or making this data available to the economic entity is costly;

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10 For a detailed survey on these different mechanisms of coordination cf. Ouchi, William G., Markets, Bureaucracies, and Clans, 25 ASQ (1980), pp. 129-141; for the basic work on different mechanisms of economic coordination, cf. Coase, The Nature of the Firm, supra; and Ibid., 386: "The operation of a market costs something and by forming an organisation and allowing some authority ('an entrepreneur') to direct the resources certain marketing costs are saved."

- negotiation and monitoring costs, arising from the contracting process or from activities that attempt to enforce post-contractual performance;
- costs of reduced flexibility that are associated with the uncertainty of future events as a result of transaction-specific investments; and
- costs imposed on market transactions by governments or the public that do not apply to intra-corporate transfers of economic activities.

The original approach was extended mainly by Oliver E. Williamson who attempted to provide a coherent framework for inquiring into the determinants of vertical integration in different industries. The reasoning underlying this approach is that the achievement of transaction-cost advantages regarding the elimination of monopoly distortions, technical complementarities, supply reliability, and economies in the acquisition of information are the essential reasons for vertical integration. The causes of inability of the market to perform its functions under certain circumstances, leading to the aforementioned outcomes, are presented by the so-called organizational failures framework provided by Williamson. Essentially, three conditions are responsible for incentives to integrate:

- Conditions of uncertainty and/or complexity, and the bounded rationality of human beings. Man is tendentially rational but only limitedly so. Thus "it is only because individual human beings are limited in knowledge, foresight, skill, and time that organizations are useful instruments of human purpose".

- Opportunism as an extended form of self-interest on the part of economic agents which leads to attempts by economic agents to make false, empty, and therefore self-disbelieved threats and promises in order to attain individual advantages not included in a contract. This may be particularly

15 Simon, Herbert A., Models of Man, New York 1957, p. 199 and: "The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world" (p. 198).
attractive in cases of small-numbers bargaining or in case of uncertainty about the final results of the contract.\textsuperscript{16}

- Conditions of information impactedness which arise, "when true underlying circumstances relevant to the transaction, or related set of transactions, are known to one or more parties but cannot be costlessly discerned by or displayed for others".\textsuperscript{17}

Since the operationalization and determination of costs arising from transactions seems an unsolvable problem, an attempt has been made to list transaction specific market characteristics as criteria for the determination of the extent of vertical integration. According to Richardson, the form of exchange depends on the transaction to be carried out.\textsuperscript{18} If the economic activities to be performed are complementary and similar in their nature, a pooling of the activities into a corporation seems advisable.

Comparable but advanced criteria were set up by Williamson who extricated three different characteristics for the determination of integrative cases:\textsuperscript{19}

- The frequency with which bilateral economic transactions are repeated determines the incentive to integrate. Depending on the frequency, different contractual linkages can be chosen;

- the extent to which bilateral economic transactions require transaction specific investment determines the incentive to integrate. The larger the extent of idiosyncratic investment for a sequence of transactions within a contract, the stronger the incentive to intra-company organization; and

- the future uncertainty associated with bilateral economic transactions determines the incentive to integrate. There is a large degree of uncertainty associated with the quality of goods and services purchased, and also uncertainty about the development of relevant data in the future.

The pattern set according to the first two criteria can be summarized in the following synopsis:

\textsuperscript{16} Cf. Kaserman, Theories of Vertical Integration ..., supra, 487; and as well Goffman, I., Strategic Interaction, Philadelphia 1969, p. 105.
\textsuperscript{17} Williamson, Markets and Hierarchies ..., op. cit., 31.
\textsuperscript{18} Cf. Richardson, G.B., The Organisation of Industry, 82 EJ (1972), pp. 888 f.
**Fig. 8:** Means of Governance as a Result of Investment Characteristics and Transaction Frequency

<table>
<thead>
<tr>
<th>Investment Characteristics</th>
<th>Non-specific</th>
<th>Mixed</th>
<th>Idiosyncratic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occasional</td>
<td>Market</td>
<td>Trilateral governance (neoclassical contracting)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>governance</td>
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<td></td>
<td>(Classical</td>
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<td></td>
<td>contracting)</td>
<td></td>
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</tr>
<tr>
<td>Recurrent</td>
<td>Unified</td>
<td>Bilateral governance</td>
<td>governance</td>
</tr>
<tr>
<td></td>
<td>governance</td>
<td>(Relational contracting)</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Williamson, Oliver E., Economic Organisation: Firms, Markets and Policy Control, Brighton, Sussex 1985, p. 117.

**b. Economic Exchange via Organizations: Costs of Using Internal Organization**

However, in contrast to the aforementioned costs of using the price mechanism in markets, there has to be some explanation as to explain why economic transactions are not performed by firm organizations altogether. Due to costs associated with the exercise of the internal entrepreneurial function, vertical integration leads to costs resulting from the internal organizing of economic transactions:20

"Under certain conditions, markets are more efficient because they can mediate without paying the costs of managers, accountants, or personnel departments. Under other conditions, however, a market mechanism becomes so cumbersome that it is less efficient than a bureaucracy."

These costs associated with the use of the internal entrepreneurial function comprise primarily the following components:21
- decreasing returns to scale to the entrepreneurial function;
- increased likelihood of inefficient resource allocation due to an increased organizational size; and

20 Ouchi, Markets, Bureaucracies, and Clans, supra, 129 et seq.
- a rising supply price of one or more inputs to the production process as the integration process proceeds.

Often the defects associated with market exchanges have to surmount a non-trivial threshold until internal organization offers clear cut efficiency advantages.\textsuperscript{22} It is the primary task of antitrust theory to provide evidence on the level of that threshold in order to perform a possible efficiency trade-off.

\textbf{2. Efficiency-Enhancement as the Underlying Reasoning for Vertical Integration}

According to current theory, vertical strategies in general and vertical mergers in particular, are advantageous for the economic agents performing the integration since the anticipated costs of organization are lower than the transaction-costs that arise through use of the price mechanism. It has been asserted that vertical market restrictions should be assumed to enhance efficiency per se. There is virtually no "reason to assume that a vertical merger which lowers costs and prices, thus benefitting consumers, is 'unfair' to rivals in any reasonable antitrust sense of that term".\textsuperscript{23}

According to the assertion that efficiency-enhancement is the primary goal of competitors, the best strategy for the firm is to compare market transaction and internal organization costs and to merge vertically only to the extent that transaction-costs are equal to the costs of organizing. Each of the separate stages of the production and distribution process is autonomous, and in principle market contracts could be used to bring economic activity at successive stages into adjustment. The limits of vertical integration, however, are found in that the successive interfaces are organized

\textsuperscript{22} Cf. Williamson, Markets and Hierarchies ..., op. cit., 130.

\textsuperscript{23} Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1002. This has been emphasized strongly with regard to the Brown Shoe decision, cf. Bork, Robert H., and Ward S. Bowman, The Crisis in Antitrust, 65 CLR (1965), pp. 363-376, 372: "The Brown Shoe case employed the theory of exclusionary practices to outlaw vertical integration that promised lower prices, ..., and the theory of 'social purpose' to justify the fact that the decision prevented the realization of efficiencies by a merger, which, realistically viewed, did not even remotely threaten competition."
in a way that economizes on transaction costs.\textsuperscript{24} Thus, the optimal degree of vertical integration is discovered by an optimization calculus, based on the principles that

"a firm will tend to expand until the costs of organising an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organising in another firm".\textsuperscript{25}

The reasoning underlying the assertion of efficiency-enhancement as the sole purpose of business conduct is identical to that underlying the evaluation of other vertical strategies, as is the case with tying arrangements.\textsuperscript{26}

The crucial question that remains is whether efficiency really represents the sole motivation for vertical integration or whether vertical integration is also performed because vertical mergers can be a source and carrier of market power.\textsuperscript{27} If this were the case, the aforementioned optimization calculus would lose its explanatory power with regard to the transaction mechanism chosen. Even if the costs of an economic transaction by the market were lower than the intra-corporate coordination costs for an economic transaction, there would remain a motivation to merge until the excess profits from a monopoly or limit price strategy equalled the total cost difference resulting from the two transaction mechanisms.\textsuperscript{28} This in fact entails the

\textsuperscript{24} Cf. Williamson, Assessing Vertical Market Restrictions ..., supra, 958 f. Furthermore, there are limitations to an internalization of economic transactions (e.g., organizational span of control) which are widely accepted, cf. Blair, Roger D., and David L. Kaserman, Law and Economics of Vertical Integration and Control, New York 1983, p. 25.
\textsuperscript{25} Coase, The Nature of the Firm, supra, 396.
\textsuperscript{27} Cf. Bain, Industrial Organization, op. cit., 178 f., who denotes that mergers even happen in cases where cost savings are not attainable; and Kaysen, Carl, and Donald F. Turner, Antitrust Policy: An Economic and Legal Analysis, 3rd print., Cambridge 1971, p. 120. Furthermore, it is asserted that efficiency-enhancement used to be the primary intention of economic agents at the turn of the century when the exploitation of mass economies in production and distribution was started, cf. Chandler jr., Alfred D., The Visible Hand: The Managerial Revolution in American Business, 5th print., Cambridge, Mass. 1980, pp. 337-339.
consideration of time-lags in market adjustment processes and a questioning of the presumption of a market mechanism which works frictionlessly.

3. Efficiency Gains vs. Anticompetitive Consequences: Necessity for a Trade-Off?

Current theory presupposes on the one hand that efficiency-enhancement is the competitor's only goal and on the other that consumer welfare via an increase in business efficiency is the legislator's only intent. If both of the presumptions are called into question, it becomes obvious that a possible trade-off in terms of conflicting goals may involve a positive level (efficiency-enhancement vs. anticompetitive consequences) and a normative one (consumer welfare vs. other public goals), the treatment of which has to be carried out separately.

Regardless of the likelihood and force of anticompetitive consequences, not only the achievement of efficiencies has to be demonstrated but it has to be shown that competition is not significantly impaired by vertical integration (e.g., ease of entry, low minimum efficient scale at the foreclosing level).29

The achievement of efficiencies has to be demonstrated because we may not presume a priori that efficiency-enhancement is the only objective of an economic agent, at least not in the sense of overall economic efficiency that translates on a one-to-one basis into consumer welfare.30 Furthermore, consumer welfare in the definition of current theory does not equal economic welfare, as the term is used by independent scholars for the evaluation of vertical integration. Thus, we have to modify considerably the unrealistic qualifications of current theory, i.e. bear in mind that real world markets do not work in a frictionless way, barriers to competition exist and are often significant; and that a comparison of organization costs with transaction costs of the market is often unfeasible.

Furthermore, internal vertical growth is often considered superior in terms of efficiency achievement; this becomes even more important in the sense

30 At the same time, welfare effects of vertical integration are not determinable in an unambiguous manner. They have to be evaluated according to particular features of the actual market situation, cf. Blair/Kaserman, Law and Economics of Vertical Integration and Control, op. cit., 82; and Warren-Boulton, Frederick, Vertical Control of Markets: Business and Labor Practices, Cambridge, Mass. 1978, p. 109.
that internal growth is one principal way of expanding business action legally:³¹

"When a corporation chooses to grow by building it expects to face tests in the market for the product over the years required to establish and develop a new operation. It must fight its way in, that is, compete to succeed, and not buy its way in. I consider this a far better market test ... than the 'market test' involved in a merger for the market for firms is highly imperfect ..."

On a normative level, public goals other than just consumer welfare have to be taken into account.³² This has to be considered a legitimate concern because the Incipiency doctrine still considered valid by the courts must be viewed as a result of the legislator's willingness to maintain unconcentrated structures and eventually sacrifice efficiencies in order to maintain competition. This was demonstrated supra and applies to vertical integration just as well. Currently this is expressed by presumptive rules of illegality of vertical mergers.³³

A trade-off is certainly needed for the determination of the counteracting effects of vertical integration or vertical mergers in particular. However, it has to be performed on a positive as well as on a normative level of analysis, including a critical appraisal of the shortcomings of current theory on a positive level and the intentions of legislation on the normative one.


³² This distinction between a normative and a positive view is emphasized in that "(a)lternative views of the objectives of public policy can have a considerable effect on the determination of general policy guidelines and on the degree of preference for an active interventionist policy approach. Differing conclusions can also result, however, from different assumptions or beliefs on questions of fact", cf. Warren-Boulton, Vertical Control of Markets ..., op. cit., 165.

³³ Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1011a; and Sullivan, Handbook of the Law of Antitrust, op. cit., 664, who mentions a market share of 15% and a market share foreclosed on either level of roughly 10-12%.
II. **Empirical Evidence on the Extent of Vertical Integration and Associated Efficiency Advantages**

1. **The Measurement of the Extent of Vertical Integration**

In order to draw conclusions on the effects of vertical integration, it is necessary to determine the extent of vertical integration along the different lines of production and distribution. Only if the degree of vertical integration, the essential independent variable, is precisely known, can we possibly determine and isolate particular consequences of an increase in the degree of vertical integration via econometric models. In this context, the degree of vertical integration is determined by the extent to which a particular firm substitutes intracorporate production and coordination for market transactions.

The pioneering work on the issue has been provided by Adelman, who proposed value added as a percentage of sales revenues, representing a sort of make-or-buy ratio, an increase of which would indicate an increase in the degree of vertical integration et vice versa. The crucial advantage of this index is that neither the number of levels in the chain of production and distribution has to be calculated, nor their relative weight concerning the total number of the stages along the chain. However, the index has numerous disadvantages:

- The fact is systematically neglected that with increasing completeness of the product through successive stages of production the degree of product heterogeneity as well as corresponding revenues increase. This leads to an overestimation of the degree of integration at prior stages of the process;

vertical mergers which change the degree of integration show different results, depending on whether one takes the acquiring firm or the acquired firm as one's point of departure; and

the fact is neglected that the census value added is also a function of labor and capital intensity, which may lead to an overestimation of the degree of integration in the case of labor intensive process chains, et vice versa.

There have been attempts to modify the index, albeit without any great degree of success.5 None of the subsequently developed indexes using relative employment, percentage of firms in an industry having two or more stages of production, vertical Herfindahl index, or input-output studies have overcome the main difficulties of empirical attempts to determine the degree of vertical integration; they suffer from one or all of the following deficiencies: inconsistency with economic theory, a lack of operationality, and limited usefulness with regard to economic and policy analysis.6 This has evidently handicapped studies using indexes on the degree of vertical integration as an independent variable in econometric models.7

2. The Empirical Evidence on Efficiency-Enhancement

Empirical studies attempting to find evidence of the validity of the transaction-cost approach and data on the extent of actual cost savings in the case of increased vertical integration may be placed in two categories:

- Studies which attempt to isolate transaction-specific market characteristics believed to act as incentives for vertical integration and in so doing attempt to determine the corresponding degree or change of vertical integration;8 and

7 Currently, the census value added in relation to the sales of a firm is used as the most appropriate indicator of the extent of vertical integration, cf., e.g., Monopolkommission, Hauptgutachten der Monopolkommission VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986, tab. II.6, and paras. 233-235 for the qualifications necessary.
8 Transaction-specific market characteristics are supposed to serve as a proxy variable for anticipated cost savings that may not be operationaliized quantitatively.
studies that attempt to quantify savings in transaction costs in the case of a change in the mechanism of economic coordination and which amounts to a change in the degree of vertical integration.

Whereas the former category represents an indirect attempt to determine the extent to which economic entities economize on transaction costs, the latter represents a direct and quantifiable attempt to do this.

a. Studies on Transaction-Specific Market Characteristics

A variety of empirical studies have tried to find support for the implications of the transaction-cost approach by citing evidence that transaction-cost specific market characteristics pose an incentive for vertical integration:

- In the case of the existence of idiosyncratic capital, represented by specialized knowledge in the automobile industry, it was hypothesized that vertical integration would increasingly occur if the production process resulted in idiosyncratic and hardly transferable know-how, such as special features of the organizational structure, the organization of the production process, or the use of special machines and tools. Since opportunistic behavior on behalf of a highly specialized supplier to the automobile industry could possibly be expected in order to reap quasi rents, and this in turn would result in supplier switching costs for the automobile manufacturer, there was found to be a strong incentive for vertical integration on behalf of the automobile manufacturer in order to avoid opportunism and uncertainty.9 Tendentially, this was enforced in the case of a small number of economic agents at the suppliers' stage.

- With regard to small numbers of participants at one of the stages in a chain of production and distribution, it has been found that there is a "positive relationship between vertical integration and the fewness of

firms" which "supports the implications of the transaction cost ap-
proach".10

The results of the empirical studies are based on the premise that motivati-
on for vertical integration other than efficiency do not exist. Only to this respect did they confirm the implications of the transaction-cost approach. However, there may be some other causal factors that are responsible for an incentive to integrate. Although efficiency increases through economizing on transaction costs may result from vertical integration, we are neither sure whether these gains are passed on to consumers as a result of sufficient competitive pressure, nor do these studies elaborate on possible anticompe-
titive effects as a result of increased vertical integration.11 Furthermore, market power effects are largely neglected.

b. Studies on Actual Cost Savings

Empirical studies that attempt to measure the actual extent of cost savings from increased vertical integration directly do not distinguish external ver-
tical growth by mergers. Thus we have to accept a lack of knowledge re-
garding the comparison of cost savings associated with vertical mergers on the one hand and other forms of vertical integration on the other.12

None of the empirical studies on costs savings from increased vertical inte-
gration show quantitative results on marginal transaction-costs across diffe-
rent mechanisms of coordination through the various stages in the chain of production and distribution.13 This seems especially important with regard to the isolation of motives underlying an increase in vertical integration. In the case of a net increase in efficiency there would be an affirmation of the efficiency-enhancement hypothesis, although we cannot be sure whether this increase is passed on to consumers as the current tenet contends. However, empirical findings showing a decrease in efficiency in the case of increased vertical integration would suggest a motivation other than efficiency-enhan-

11 This will be done infra in subsection III, after presentation of the defi-

ciencies of the transaction cost approach concerning antitrust purposes.
cement. With regard to this respect, empirical studies are scarce and their results are ambiguous, to say the least.\textsuperscript{14}

The main obstacle to unambiguous conclusions is the problem of distinguishing efficiency or cost saving effects from all other consequences, such as market power, price discrimination, evasion of regulation, and the like.\textsuperscript{15} In a study on the effects of vertical integration on the basis of the Federal Trade Commission Line of Business data, which used an index of vertical integration based on internal transfers as a percentage of the total of external sales and internal transfers, Ravenscraft concludes that transaction cost economies exist. However, further studies are considered necessary in order to determine countervailing effects of monopoly power that are necessary for a public policy trade-off.\textsuperscript{16} The crucial deficiency seems to be that the results are compatible with an efficiency as well as with a market power explanation. This becomes obvious if one compares the two polar positions in this field. Whereas Chandler attempts to interpret "the historical process of American business as including vertical integration as a part of a long-run strategic process, contributing to the creation of oligopolistic structures and entry barriers"\textsuperscript{17}, Williamson reinterpreted the evidence as being consistent with the transaction cost approach, holding that the primary effect of the increase in vertical integration was lower costs.\textsuperscript{18}


\textsuperscript{15} Cf. Dиррхернер, Vertical Integration ..., supra; Fisher/Sciala, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 72; and Maddigan, The Measurement of Vertical Integration, supra.

\textsuperscript{16} Cf. Ravenscraft, Economics of Integration, supra; this is affirmed by the studies of Dиррхернер, Vertical Integration ..., supra; and Maddigan, The Measurement of Vertical Integration, supra.

\textsuperscript{17} Fisher/Sciala, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 69 f.; and for the original source, Chandler, The Visible Hand ..., op. cit.

\textsuperscript{18} Cf. Williamson, Assessing Vertical Market Restrictions ..., supra, 968-974.

The crucial issue is whether the analysis of transaction-cost advantages along various degrees of vertical integration and different transaction-cost specific market characteristics is operational and practical, and whether it is able to supply detailed prognoses on the efficiency consequences that will actually result from vertical mergers.\(^{19}\)

The use of marginal transaction-cost approach, which leads to the calculus on market transactions versus intra-organizational transactions, seems plausible at first sight. However, it remains without explanatory power and thus an empty box as long as it is not possible to determine exact cost levels and margins necessary to perform the trade-off.\(^{20}\)

Furthermore, the general applicability of the transaction-cost approach and similar approaches to a theory of institutional change has to be questioned fundamentally. It is held that the microeconomic concept of efficiency has to been seen as crucially important for the application of the transaction-cost approach and that the ability of the price system to alter the structure of systems of economic exchange in the direction of efficient economic arrangements depends on sufficient competitive pressure. If it is realistically assumed, however, that economic equilibria are absent in most if not all of our markets, and, furthermore, that market imperfections and oligopolistic structures prevail, "economic logic supports no causal inferences about the role of efficiency in determining social or organizational structure".\(^{21}\) Market imperfections make it much less likely that the most efficient competitors will survive in the end. Concerning the assumption of an essentially frictionless and perfectly competitive market, as assumed by the adherents of current theory, there is strong evidence that the imperfections actually found in reality may finally be responsible for the fact that "financial and market

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19 Cf. Schmidt/Rittaler, Die Chicago School of Antitrust Analysis ..., op. cit., 50.
21 Robins, Organizational Economics ..., supra, 71, and ibid., 74: "Transaction-cost analysis adopts a model that has clear meaning for organizations only in perfect markets and applies it to highly imperfect situations. The role played by efficiency is especially problematic in light of how little the neoclassical concept says about the behavior of individual organizations."
power, not economic efficiency, may determine the winners in the competitive race".22

As long as net efficiency gains are concluded from an increase in the degree of vertical integration, motivations other than efficiency-enhancement are simply defined away for the purpose of analytical clarity and on the basis of a false assumption that economic agents only have consumer welfare on their minds. We have emphasized supra that efficiency does not represent the sole motivation for any kind of internal and external corporate growth and this is also the case for vertical integration. Vertical integration in general and vertical mergers in particular can be a source and carrier of market power.23 If this were be the case, the aforementioned optimization calculus would lose its explanatory power with regard to the transaction mechanism chosen. Even if a net efficiency loss in the short run resulted from the integration, there would remain a motivation to merge, until excess profits from a monopoly or limit price strategy equalled the total cost difference resulting from the two transaction mechanisms. This would be so because of the belief that monopoly power which could be exploited in the time periods after the merger had occurred could be attained.24 Such a rationale is ruled out by the adherents of current theory, however, since persistent competitive pressure and frictionlessly working markets will not allow competitors to reap monopoly advantages, as a price raise attracts newcomers immediately and the latter provide competition which erodes excess profits.

The assertion that meaningful barriers to competition do not exist, and hence that sufficient competitive pressure is believed to be persistent, regardless of the existing structural features of the markets involved in vertical integration25, tends to define market power problems away and understates the likelihood of anticompetitive consequences. The absence of power

22 Mueller, Public Policy Toward Vertical Mergers, op. cit., 165; and again Robins, Organizational Economics ..., supra, 79: "In the absence of perfect markets for all inputs to production, the assumption that firms will be pushed in the direction of a common, transaction-cost minimizing organizational form is unwarranted."


results in efficiency and efficiency is synonymous with consumer welfare. However, an examination of actual or supposed increases in business efficiency, whether they relate to allocative or productive efficiency, is a reflection of a comparative-static way of thinking. The aim of any realistic antitrust policy must be to secure the existence of sufficient competitive pressure to force firms to be dynamic, innovative and to adjust, as well as to compel them to actually pass on their internal welfare gains to the economy as a whole. Concerning the Brown Shoe case, for instance, it is correctly noted that

"(t)he recognition that integrated and chain operations may result in benefits to consumers in no way proves that the Brown-Kinney merger actually resulted in such benefits; or that the merger route is the only way to achieve such benefits; or, finally that even if such benefits, in fact, achieved by this merger, they would have been passed on to consumers" (citation omitted, italics supplied).

The terms 'transaction-costs' and 'organization costs' are difficult to handle, and in specific cases they can neither be determined in a precise manner empirically nor quantitatively measured. The terms are largely used in a way that allows justification of certain phenomena ex post; this leads to the possibility that any development may be justified - but only ex post and crudely. As a result, the concept tends to become tautologous: a process that can be observed is efficient because it developed the way it has!

Only the restrictive premises of current theory are responsible for the misinterpretation of the transaction cost approach, and these are essentially provided by Coase and Williamson. On realistic premises and assumptions, the

26 Mueller, Public Policy Toward Vertical Mergers, op. cit., 162. The passing on of efficiency gains is neglected on the basis of the assumptions dealt with supra. With regard to vertical integration, recent studies, however, have found "evidence that higher intermarket contact between firms, combined with medium to high concentration levels, increases the probability of collusion", Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 70. We will deal with anticompetitive consequences of vertical integration infra.

27 This seems to be analogous with the circular logic which we have criticized concerning the premises and assumptions of the current tenet supra. Cf. also, Bössmann, Weshalb gibt es Unternehmungen? ..., supra, 672 f.; Robins, Organizational Economics ..., supra, 72, who state that Williamson himself holds that the transaction cost approach is virtually able to explain any economic change if it is not operationalized further; cf. as well, Schmidt/Rittaler, Die Chicago School of Antitrust Analysis ..., op. cit., 50.
generality of the pro-efficiency argument is not tenable. As has been emphasized, the uncritical use of market models as well as the implicit analogy with neoclassical economics and perfect competition is unwarranted.28

III. An Evaluation of Possible Anticompetitive Consequences Resulting from Vertical Integration

1. The Reasoning Underlying Anticipated Anticompetitive Consequences: Foreclosure of Actual and Potential Competitors

The presumption of illegality of particular vertical mergers is based on the notion of foreclosure of actual or potential competitors. In the Brown Shoe case the U.S. Supreme Court held that "(e)very extended vertical arrangement by its very nature, for at least a time, denies to competitors of the supplier the opportunity to compete for part or all the trade of the customer party to the vertical arrangement".1 Thus, foreclosure may be assumed if the integrated firms uses its vertically integrated market position to deny comparably efficient non-integrated competitors equal access to the markets for consumers and/or suppliers. As a result, competitor firms that are not integrated face a smaller output level or market share than would be the case if vertical integration had not been performed.2 The extent of the market that is removed from the competitors at the two successive stages of a particular vertical merger determines the degree of foreclosure:3

28 Cf. Fisher/Sclacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 71; and Robins, Organizational Economics ..., supra, 70.
"If ... a firm with 50 percent of the market at an early stage acquires another who holds 10 percent market share at the only succeeding stage, then as a result of the merger, rivals of the latter firm are said to be foreclosed potentially from half of the market for needed supplies, while rivals of the former are foreclosed from about 10 percent of the market for their input. In this manner, moreover, the theory is symmetrical and is used to refer to either stage of production."

Regarding real cases of vertical integration, three typical forms of foreclosure may be discerned:
- a firm that possesses market power on an input market and, at the same time, acts as a supplier on the final product market, may impede market access for non-integrated competitors to the input market on the final product market and thus may extend market power from one stage to the other;
- non-integrated firms competing on the input market may be disadvantaged by the fact that a vertically integrated competitor impedes their access to subsequent stages in the production and distribution process; and
- potential competitors may be impeded from entering the market because of increased capital requirements and specialized know-how. This may even be enforced by a need to enter vertically integrated chains of production and distribution in order to avoid competitive disadvantages.

Concerning cases in which market power is absent in horizontal terms, there seems to be general agreement that vertical integration is not likely to have anticompetitive effects. However, the rather small market shares that were used by courts to demonstrate that significant parts of the markets were foreclosed to rivals, have been challenged by scholarly commentary. In this context, the view is put forward that actual and potential competitors cannot possibly be foreclosed since vertical integration as well as exclusionary practices are efficiency motivated, and frictionlessly working markets without barriers to entry would immediately restore sufficient competitive pressure. Furthermore, the underlying reasoning of the foreclosure argument would be strongly in contrast to neoclassical price theory and the profit

4 For a different classification cf. Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 38, who distinguish between a case of 'self-dealing' and cases of 'discriminatory transfer pricing'.
5 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1004c.
maximizing principle that is a logical consequence of the homo oeconomicus
presumption. Thus, it is concluded that the

"concern about possible market foreclosure is misplaced. A manufacturer
may, in certain circumstances, improve his market position by buying
retail outlets and foreclosing them to his rivals. But, wherever he can
do this, there are alternative ways of enhancing his market power
which are distinctively superior to market foreclosure, which obtain all
the advantages of foreclosure and avoid the costs specific to this prac-
tice. This being so, we should not expect foreclosure to be important as
a predatory tactic". 7

Important antitrust cases have shown, however, that cases of foreclosure
occur and that the actual share of the market that is foreclosed may be
substantial. 8

In the Volkswagen spare parts case, for instance, the Volkswagen automobile
company had induced company affiliated repair shops to use original brand
Volkswagen spare parts. These company affiliated repair shops accounted for
50 percent of the relevant market of spare parts compatible to Volkswagen
automobiles. The German Federal Cartel Office held that all other producers
of Volkswagen spare parts as well as spare part wholesalers would be un-
duly impeded by being foreclosed from the 3,400 company affiliated repair
shops representing 50 percent of the otherwise accessible relevant market. 9

The particular anticompetitive effects became even more obvious in the Ford
Motor Company case. 10 In this case, the U.S. Supreme Court held unlawful
the acquisition of the Electric Autolite Company - one of the two unintegra-

7 Peltzmann, Sam, Issues In Vertical Integration Policy, in: Weston, Fred,
and Sam Peltzmann (eds.), Public Policy Toward Mergers, Pacific Palisa-
Antitrust Paradox, op. cit., 238: "Whether or not one believes in the Law's
foreclosure theory, all so-called vertical merger cases should be handled
through the application of horizontal merger standards" (italics in origin-
al).
8 Cf., e.g., Ford Motor Co. v. U.S., 1972 CCH Trade Cases, § 73,905; and VW-
Identtelle, WuW/E BGH, pp. 1829 ff.
9 Cf. VW-Identtelle, WuW/E BKartA, pp. 1781 ff., however, this was not ac-
cepted by the German Federal Supreme Court on account of the argument
that Volkswagen had a right to protect its quality standards by company
affiliated repair shops. Foreclosure was accepted since it was not consi-
dered an undue instrument to attain this objective, cf. again VW-Identtelle,
WuW/E BGH, pp. 1829 ff.
Wettbewerbspolitik ..., op. cit., 138 f.; and for the case, Ford Motor Co. v.
U.S., op. cit.
ted spark plug manufacturers - by the Ford Motor Company that manufactures automobiles. Before the merger, Ford had purchased all of the spark plugs from independent manufacturers. This accounted for roughly 10 percent. The primary intent of the acquisition was to get a hold of a part of the profitable aftermarket for replacement of defective or worn out plugs.

Concerning the installation of original equipment, the market structure was characterized by a bilateral tight oligopoly. In the spark plug market Autolite held 15 percent of the market, General Motors, the largest U.S. automobile producer 30 percent, and Champion the other independent manufacturer, 50 percent. General Motors, Ford, and Chrysler as the main purchasers of spark plugs accounted for 90 percent of the original equipment market.

The vertical merger was perceived to transmit the rigidity of the oligopolistic structure of the automobile industry to the spark plug industry and decreased the likelihood of competition between the former independents, Autolite and Champion.11

The essential anticompetitive consequences from the vertical merger were seen by the Court in the following factors:

- the disappearance of Ford as the largest purchaser of original equipment spark plugs eliminated the tempering influence on the aftermarket for spark plugs; and
- the vertical merger impeded the access of newcomers in spark plugs production substantially because it foreclosed 10 percent of the total market for spark plugs.

Before elaborating on the possible anticompetitive effects more precisely, we will take a brief look at the effects of foreclosure on economic welfare.

Whereas recent work in vertical integration has emphasized the effects of vertical integration on resource allocation and economic welfare, the U.S. Supreme Court has not made any attempt to reveal the nature of the relationship between the degree of foreclosure and the extent of economic wel-

No problem emerges if the degree of foreclosure is negatively correlated with the extent of attainable economic welfare in the sense that if the share of the market foreclosed to actual and potential competitors increases, then economic welfare decreases. This is the essential reasoning behind the pejorative label attached to foreclosure. A trade-off becomes necessary, however, if "whatever bad effects of foreclosure exist are at least partially offset by the lower prices and higher output levels vertical integration brings". Recent empirical work provides evidence for the necessity of a trade-off between the pure foreclosure effect and possible advantageous effects on economic welfare. Furthermore, empirical evidence suggests that "market foreclosure can be a poor indicator of the economic welfare effect of vertical merger ... (and) economic welfare is enhanced even though non-integrated firms are "foreclosed"." Thus, it seems necessary to postulate conditions under which reliable statements are possible about the net effects associated with such a trade-off, thereby facilitating a reasonable judgment on vertical mergers in the light of possible counteracting effects. Thus foreclosure may well be seen as a relevant criterion in the decision to give legal screening to vertical merger cases, it does not, however, seem to constitute an adequate criterion to condemn any vertical merger a priori.

12 Cf., e.g., Hamilton/Lee, Vertical Merger, Market Foreclosure, and Economic Welfare, supra, 948; and Blair/Kaserman, Law and Economics of Vertical Integration and Control, op. cit., 153.
15 Cf. Hamilton, James L., and Soo Bock Lee, The Paradox of Vertical Integration, 53 SEJ (1986), pp. 110-126, 125, who state that the paradox between foreclosure and economic welfare is not generally valid and identify barriers to entry and collusion as the essential conditions to determine the net effects: "(R)elaxing the input monopoly assumption demonstrates that vertical integration can have a much wider range of possible welfare outcomes than previous models have shown ... whether or not integration enhances barriers or collusion makes all the difference. In empirically relevant settings, no paradox exists to neutralize any anticompetitive effects."
16 In fact, foreclosure is considered largely a symptom rather than a cause because it is believed not to have sufficient microeconomic foundation, cf. Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 150; and along the same line, Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 20.
2. Particular Anticompetitive Effects Associated with Foreclosure

It is largely disputed to what extent vertical integration carries a potential for anticompetitive consequences. Whereas scholars that are associated with the traditional approach emphasize the anticompetitive potential of vertical mergers, Chicago scholars insist on an efficiency-enhancement potential of vertical arrangements.\(^{17}\)

a. Price and Output Consequences

In classical monopoly theory, a decrease in output and an increase in price are considered to be the consequences of a monopoly. Vertical integration that is characterized by a supplier/buyer relationship along distinct chains of production and distribution down to the consumer is perceived not to alter market concentration, and hence not have direct price/quantity consequences. Thus, "(v)ertical integration does not, of itself, increase the percentage of the market controlled by a firm".\(^{18}\)

This is an acceptable standpoint, if one refers to the narrow concept of price and quantity, i.e. to market concentration in the sense of an index of concentration not altered by an increase in vertical integration.\(^{19}\) However, if one takes into account possible leverage effects resulting from the fact that firms possess horizontal market power in their original market and un-

\(^{17}\) Cf. Scherer, Industrial market structure ..., op. cit., 303, who mentions that members of the Chicago School view vertical Integration as either socially desirable or innocuous: "Vertical Integration is perceived as enhancing efficiency by dissolving bilateral monopoly bargaining stalemates, eliminating double marginalization by vertical chain monopolies, and minimizing input substitution distortions."

\(^{18}\) Bork, Vertical Integration and Competitive Processes, op. cit., 142, and ibid., 143, furthermore holding that "a vertical acquisition can never create or increase a restriction of output. By cutting costs and creating efficiencies it can result in an increase in output"; and cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1000a. For some basic discussion of the issue, cf. Westfield, Fred M., Vertical Integration: Does Product Price Rise or Fall?, 71 AER (1982), pp. 334-346.

\(^{19}\) Cf., e.g., Mueller, Public Policy Toward Vertical Mergers, op. cit., 151, who is not a scholar of the current tenet: "Vertical integration, as such, does not confer market power on the integrated firm. After all, few American enterprises are more vertically Integrated than the farmer selling his apples at a roadside stand. But he gains no market power merely because he controls all stages of production and distribution from the orchard to the ultimate consumer."
der certain circumstances are able with a certain time-lag to transfer this market power via vertical merger to an originally competitive market, prices and quantity may change as a result of that leveraged market power.\(^{20}\) This, in turn may make possible all the evils associated with discretionary behavior as a consequence of market power, such as price discrimination, supply squeeze, a raise of barriers to entry, and even the facilitation of collusive behavior on a second stage level.\(^{21}\) Instead of only considering a firm’s market power as this is reflected by price/quantity conditions, it seems advisable to emphasize a firm’s market position as defined by its ability to “behave persistently in a manner different from the behavior that a competitive market would enforce on a firm facing otherwise similar cost and demand conditions”.\(^{22}\) This market position is not necessarily identical with the market share the firm holds.

It is commonly held that in the case of sufficient competition on both the markets involved in a vertical merger the competitive consequences of a vertical merger are either neutral, because significant anticompetitive consequences cannot be determined, or pro-competitive because of the efficiency gains associated with the merger, the passing on of which is secured by sufficient competitive pressure.\(^{23}\)

\(^{20}\) Cf. e.g., Kaserman, Theories of Vertical Integration ..., supra, 497, who asserts that "(t)here is a possibility, ..., that such integration may serve to solidify or expand the monopoly power that provided the original catalyst for vertical combination"; and Kaysen/Turner, Antitrust Policy ..., op. cit., 121: "Firms possessing significant market power at one stage in a production chain, by integrating backward or forward, spread that power to lower and higher stages."

\(^{21}\) Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1007; and Kaserman, Theories of Vertical Integration ..., supra, 497 note 38, who notes that it may well be difficult to trace the origin of such power ex post: "(I)f we view a vertically integrated firm possessing monopoly power at successive stages of production, it may be very difficult to determine the direction of causation between the integrated structure and the monopoly power."

\(^{22}\) Kaysen/Turner, Antitrust Policy ..., op. cit., 75. The ability, then, to extend a market position from the original stage in the chain of production and distribution to another stage strongly relies on the horizontal market power the vertically integrated firm possesses at the original stage, cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1005; Comanor, Vertical Mergers, ..., supra, 255; and Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 20 and 25.

Paradoxically, the case of a vertical merger of two monopolists is associated with an increase in the final product's output and a decrease in the final product's price. It is assumed that prior to a vertical integration the output monopolist would have an incentive to buy less of the input and to substitute for other, less efficient, inputs to the greatest possible extent, whenever the input monopolist raised its price. This would increase the final product's price and decrease its output. This distortion in the allocation of resources is believed to be corrected in the case of a vertical merger because the combined monopolist cannot charge a monopoly price twice, and hence would charge an internal transfer price that would amount to his marginal costs for the input. Monopoly pricing is assumed to have been substituted for competitive pricing.²⁴

At least two essential qualifications have to be made to this line of reasoning, however:

- If we depart from the assumption of a use of inputs in fixed proportions and assume that the inputs may be combined in variable proportions²⁵, the user firm at the second stage starts to substitute other inputs for the monopolist input. Although an independent non-integrated second stage buyer of the input minimizes total costs, he does so on the basis of artificially high input prices which means that inputs are not combined as efficiently as they would be if inputs were priced at marginal costs. Less efficient substitute inputs thus compete with the monopolized input, which leads to efficiency in the case of the vertically integrated buyer relying on the monopolized input priced at marginal costs, but leads to a market power effect in the case of an independent non-integrated user firm.²⁶

²⁴ Cf. primarily Machlup, Fritz, and Martha Taber, Bilateral Monopoly, Successive Monopoly, and Vertical Integration, 27 Economica (1960), pp. 101-119, esp. 102; and Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 18. This is not accepted, however, by Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 31-36; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 75 f.

²⁵ Cf. Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 82; and Warren-Boulton, Vertical Control of Markets ..., op. cit., ch. 4, particularly p. 92, who holds that in the case of variable proportions "vertical control results in higher prices for the consumers of the final product and reduced demand for nonmonopolized inputs."

Recent empirical studies have tried to verify these implications. They have concluded that it seems impossible to forecast which of the two effects at work will prevail. The potential for a net price raising effect is greatest in cases of non-integrated second stage buyers' intermediate substitution possibilities.27

The second qualification necessary concerns the aforementioned extreme structural conditions that are assumed. Real markets are often characterized by monopolistic imperfections or oligopolistic conditions along all the stages in a chain of production and distribution.28 Under these circumstances, however, a vertically integrated firm along all of the stages "can earn a larger profit than can be obtained by monopoly pricing at all ... stages independently".29 The underlying reasoning is that monopoly rents of the upstream producer become costs to the downstream buyer and this will change marginal costs and result in below-monopoly output of the final product. In these oligopoly cases anticompetitive output and price consequences are likely to result.30

Summarizing, we are able to conclude that, in analogy to the horizontal case, vertical integration may be accompanied by efficiency-enhancing effects but also by detrimental price/quantity effects.31 These two effects are interwo-

27 Cf., e.g., Waterson, Michael, Vertical Integration, Variable Proportions and Oligopoly, 92 EJ (1982), pp. 129-144. However, ambiguities are persistent since only a marginal change in the underlying conditions may end in contrary results, cf Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 21.

28 Cf. Mueller; Public Policy Toward Vertical Mergers, op. cit., 153: "In the real world vertical integration generally occurs in that broad range of structural situations between the polar extremes of perfect competition and monopoly."

29 Kaserman, Theories of Vertical Integration ..., supra, 496; and for the original source of the reasonings, cf. Spengler, Joseph J., Vertical Integration and Antitrust Policy, 58 JPE (1950), pp. 347-352.

30 Cf., e.g., Salop, Steven C., and David T. Scheffman, Strategic Interaction in Multiple Markets: A Beginning to a General Theory of Dominant Firm Industries, unpublished paper, Federal Trade Commission, Washington, D.C. 1981, cited from Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 20. Cf. again Mueller, Public Policy Toward Vertical Mergers, op. cit., 155, who concludes that in such real cases "we must evaluate the structure of the markets in which integration occurs and then determine how the integration may affect the structure and behavior of the industries involved. In sum, determining the effects of vertical integration is essentially an empirical, not a theoretical, question."

31 Cf. e.g., Warren-Boulton, Vertical Control of Markets ..., op. cit., 92 and 109.
even in a complex interaction. We should thus be cautious in our judgments because efficiency effects may present themselves quickly but anticompetitive effects may occur with a certain time-lag.

b. Price and Supply Squeeze

A further anticompetitive option exists for firms in a customer-competitor situation with market power at one stage. This is the case if the integrated firm produces more than it uses for self-dealing at one stage in the chain of production and distribution and hence sells the excess supply to non-integrated competitors at the subsequent stage. Thus, the firm’s customers become its competitors. This is the common basis for a distinct strategy of impairment of competitors that may be adopted by an integrated firm in order to exert a squeeze on prices or supplies of non-integrated competitors.

Vertically integrated producers are able to exert a price squeeze by decreasing the margin between the price for raw materials and the final product. Essentially, this may be done in three ways:

- The **single price-squeeze** strategy increases the price for raw materials and maintains the price for the final product,


34 Cf. Edwards, Corwin, Vertical Integration and the Monopoly Problem, 17 JOM (1952/53), pp. 404-410, 409. Price-squeezing does not have to be an explicit strategy of an integrated firm; it can also happen due to a shortage of raw materials: this will make raw material prices increase, whereas the final product price is kept constant by the integrated firm.

35 Cf. Comanor, Vertical Mergers, ..., supra, 254; Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920. Cf. as well House of Representatives Report No. 1191, op. cit, at p. 80: "... vertical integration may have certain or other economic effects which may also be important in Section 7 litigation. Thus, it may afford the merged company an opportunity to impose a 'price squeeze' on non-integrated suppliers".


raw materials constant and lowers the price for the final product; 
- the **double price-squeeze** simultaneously increases the price for raw materials and decreases the price for the final product, which allows the squeezing firm to determine the profits or losses of the non-integrated competitors; and finally 
- the **semi-price squeeze** enables the integrated firm to strengthen its financial capabilities by selling the raw materials at a profit, whereas the non-integrated competitor suffers from subaverage profits, which in turn will protect the integrated firm from aggressive price competition at the final product stage.

A price squeeze is generally assumed to occur only under very rare conditions or to be altogether unlikely. However, there are a number of case studies that show the empirical relevance of the problem.

For instance, between 1955 and 1962 non-integrated competitors were exposed to a single as well as to a double price squeeze in the steel industry in the United States. After 1955 price increases for wire rods were much higher than those for drawn wire and wire fabrics. The double price squeeze started in 1959 when the prices for wire rods and drawn wire remained on a high level, whereas the prices for wire fabrics such as welded wire, woven wire fences, nails, bale ties and barbed wire partly declined substantially. These price squeezes were also employed by integrated steel producers in the U.S. to discourage price cutting by less integrated wire product makers in the final product stage. In order to achieve this, integrated steel producers used a mixture of domestic and imported inputs.

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38 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728c; and Peltzman, Issues in Vertical Integration Policy, op. cit., 171.
Vertically integrated producers are often able to exert a supply squeeze upon non-integrated customers by denying supply to these customers in times of supply shortage. Integrated firms absorb an increased share of the input factors of the production process which leads to quantitative restrictions on input for non-integrated competitor or to the utilization of raw materials and factors of production that are of poor quality. This was the case, for instance, when major petroleum companies denied pipeline access and product supplies to non-integrated refiners and marketers during the two periods of worldwide supply shortages of crude oil.

The occurrence of supply squeezes is rejected or deemed unlikely by scholars who are adherents of the current theoretical approach. As the supply stage is assumed to be competitive, shortages can by nature only be temporary. Integrated firms may not alleviate supply shortage in such situations, unless they are willing to accept the loss in purchases of their non-integrated competitors in times after the shortage because "(a) free market knows no 'permanent shortage.' When demand exceeds supply, price will rise

41 Cf. Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920; and Scherer, Industrial market structure ..., op. cit., 304.
42 Cf. Scherer, Industrial market structure ..., op. cit., 304, who holds that these tactics had only transitory success in keeping independent refiners and retailers in line. For the different forms of supply squeeze, cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728b.
to the market clearing level. At that price there will be no 'shortage'."\textsuperscript{44} A permanent supply shortage may not be expected on markets without governmental or public price regulation, because price/quantity are redefined at the clearing level. If this process is impeded by regulatory action, this is not considered an antitrust problem but one of regulation. Even if the number of unintegrated efficient rivals decreases as a result of a permanent supply shortage, the integration of the other firms will not lead to a doubling of monopoly profits because of the assumptions on price and output made supra.\textsuperscript{45} We have documented, however, that the assumptions as well as the conclusions are quite often not as unambiguous as asserted.

Regardless of the reasoning of current theory, there are a variety of reasons why price as well as supply squeezes may pose a serious problem to non-integrated competitors of vertically integrated firms:
- A price squeeze leads the principle of 'survival of the most efficient' ad absurdum because the efficiency of non-integrated firms is actually no longer a guarantee for actual survival in the market because some competitors may have to leave the market, although they might be more efficient than their integrated rivals.
- Once again the Chicago view is based on the unrealistic premises of a non-existence of barriers to entry and the existence of perfectly competitive markets. By ignoring time-lags and impediments to potential competitors current theory neglects the fact that vertically integrated firms may forego present profits in order to earn above average profits in the long run.\textsuperscript{46}
- Price squeezes may occur in competitive markets as well, as Areeda and Turner suggest\textsuperscript{47}, but there has to be a certain amount of market power to make this price squeeze anticompetitive, because the existence of market power makes it far less likely that competitive forces are at work and efficiency gains passed on to consumers.\textsuperscript{48}
- The assumption that forward integration by a monopolist eliminates monopoly profits at the second stage is based on restrictive assumptions. It cannot always be assumed that increased output due to vertical integra-

\textsuperscript{44} Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1003d.
\textsuperscript{45} Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1003.
\textsuperscript{48} Cf. Comanor, Vertical Mergers, ..., supra, 255.
tion occurs, and even if it does occur, that it outweighs the effects of the supply squeeze.

- Independent competitors may often be squeezed because the integrated rival is more efficient, but the main problem of antitrust theory remains centred on the separation of efficiency from market power effects. The latter do in fact occur, because markets do not work frictionlessly, as demonstrated supra.

- Whether or not shortages that lead to a supply squeeze are temporary is not the crucial point for a competitor that has been driven out of the market as a result of an actual supply shortage, unless markets are assumed to work frictionlessly. A large number of independent gas stations were driven out of the market especially during the first oil crisis in Germany because the large oil companies were integrated into refining and refused to supply independent stations. 49

- Long-run implications of vertical integration on market structure are understated by adherents of current theory because of the restrictive assumptions made. A loosening of the assumptions will demonstrably lead to different results and therefore different conclusions. 50

c. Price Discrimination

Price discrimination is a pricing strategy by competitors which allows an economic agent to sell or purchase different units of an economic good or service "at price differentials not directly corresponding to differences in supply costs". 51 In a perfectly competitive market price discrimination is not a profitable strategy since price is determined by the market forces and the economic agent as an element of atomistic industry structure does not have discretionary power to change data. Commonly, three different conditions

50 Cf., e.g., Mueller, Public Policy Toward Vertical Mergers, op. cit., 152.
51 Scherer, Industrial market structure ..., op. cit., 315, who states that this is not restricted to sales of identical product units to different buyers at varying prices but also includes the sales of identical units to the same buyer. For a further definition and a survey, cf. Koutsoyiannis, Anna, Modern Microeconomics, 2nd ed., 2nd reprinting, London et al. 1981, p. 192-201.
may be distinguished in this context that must be satisfied for a seller to be able to practice price discrimination:52
- the seller must possess a minimum amount of market power at one stage in order to have some control over prices since the prices are data in perfectly competitive markets;
- buyers must be segregated from each other into different price segments according to their different price elasticities of demand or into discrete classes with varying prohibitive prices; and
- buyers in different price segments must be separated from each other in a way that makes arbitrage from low-price customers to high-price customers difficult or impossible.

One of the consequences of vertical integration that is largely neglected or underestimated by adherents of current theory may be the facilitation of price discrimination.53 Whether price discrimination may be facilitated depends essentially on the properties of the particular goods involved. Some properties of economic goods, such as high storage or re-packaging costs, or the impossibility of concealing a resale from a low-price to a high-price segment, are likely to prevent customers from different segments from arbitrage. However, if goods are traded among independent stages which do not possess these properties, vertical integration may enable a firm to install an equivalent mechanism and thus enforce price discrimination.54

53 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 725e; and ibid., Antitrust Law ..., vol. 4, op. cit., § 1012c; Hovenkamp, Economics and Federal Antitrust Law, op. cit., 199 f.; Kaserman, Theories of Vertical Integration ..., supra, 503; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 75.
54 Cf. the polish-sausage example by Hovenkamp, Economics and Federal Antitrust Law, op. cit., 200, who holds that the best way to enforce price discrimination and to prevent arbitrage for a monopoly manufacturer of polish sausages selling to grocery stores (home consumption) at a low price and to concessionaires (public events) at a high price, is to vertically integrate into the concessions business itself and sell the sausages at high prices directly at public events and to grocery stores at low prices.
A difference in price elasticities of demand among segregated customer segments of an input monopolist enables the monopolist to increase monopoly profits by price discrimination if he acquires the buyer that faces the relatively highest of the price elasticities of the segregated market segments. This reduces the incentive for arbitrage.\(^{55}\) Concerning the U.S. automobile industry, for instance, a strong incentive for backward vertical integration was found to exist if price elasticity of demand on the market for new automobiles and spare parts differed from each other. This incentive was found to exist as long as the two economic goods were complementary to each other, as in the case of automobiles and spare parts, and the automobile market was characterized by a higher price elasticity of demand than the market for spare parts.\(^{56}\)

If we hypothetically assume that economic efficiency and welfare are the only real objectives of antitrust, then knowledge of the net effects on economic efficiency and welfare that determine the benefits or evils of price discrimination due to vertical integration is essential to the evaluation of vertical integration.\(^{57}\)

Although vertical integration seems to facilitate price discrimination, no generalizations are feasible, however. Price discrimination may have pro-competitive effects or effects which are detrimental to competition, depending on the many forms of price discrimination and their effects on different performance criteria.\(^{58}\) Furthermore, price discrimination may lead to a conflict between first line, second line, and possibly third and fourth line competition. For instance, price discrimination may lead to a revitalization of competition in homogeneous oligopoly markets (first line) but to a disadvanta-

\(^{55}\) Cf. Hovenkamp, Economics and Federal Antitrust Law, op. cit., 200; and Kaserman, Theories of Vertical Integration ..., supra, 503; and empirically Crandall, Robert, Vertical Integration and the Market for Repair Parts ..., supra.

\(^{56}\) Cf. again Crandall, Robert, Vertical Integration and the Market for Repair Parts ..., supra.

\(^{57}\) It is unambiguous that price discrimination cause a transfer of wealth from consumers to producers, cf. Scherer, Industrial market structure ..., op. cit., 319: "Price discrimination causes a redistribution of income toward the discriminator and away from its customers."

\(^{58}\) Some of the authors believe the effects to be generally beneficial rather than adverse, cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 725e; and Bork, The Antitrust Paradox, op. cit., 240: "The law should be indifferent to this possible use of vertical integration...". For a survey on the different forms and their effects, cf. Scherer, Industrial market structure ..., op. cit., 317-319, and 325-333.
g ing of firms that are excluded from the purchase at favorable conditions by price discrimination (second line). This raises the question of whether there is injury to competitors or injury to competition or injury to both, and if they are in conflict, which actually outweighs which:

"Two sharply different objectives have been incorporated in present law, without recognition of their difference. One is to prevent discriminations injurious to market competition in the secondary line. This is the counterpart of the objective of the law in the primary line. ... The second objective is to assure equality of opportunity for all competing enterprises that buy goods from the same seller. ... Although inequalities of opportunity may be of a kind and scope that have anticompetitive effects, there may also be inequalities that have no necessary relation to the maintenance of competition."

Hence, price discrimination may not be judged as per se beneficial or per se detrimental to competitors and/or competition. An evaluation depends on the object to be protected, the objectives to be attained and the existence of the aforementioned conditions that make price discrimination feasible. With regard to the price discrimination potential as a result of vertical integration, the extent of horizontal market power that the acquiring firm holds seems of primary importance.

The assertion that vertical integration is beneficial in general is further weakened by the evidence of possible output consequences which are believed to outweigh possible price raising effects and which we have treated supra. If it can no longer be assumed that vertical mergers are output increasing, the net effect of a vertical merger is completely indeterminate for the general case.

61 Cf. again Scherer, Industrial market structure ..., op. cit., 334: "Discrimination always causes a redistribution of income whose merits cannot be assessed without invoking value judgments. Some forms of discrimination increase the efficiency of resource allocation compared to simple monopoly, others are essentially neutral, while still other types ... lead to serious inefficiencies ... Given these complexities, it is necessary to judge particular cases of discrimination on their individual merits."
62 Therefore, under the German ARC price discrimination is only illegal if firms with market power are involved (cf. sec. 26 para. 2 ARC).
63 As asserted by Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1012c; and Bork, The Antitrust Paradox, op. cit., 240; Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 124; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 80.
d. Impediments to New Competition

There is no consensus on the question of whether an increase in the degree of vertical integration also raises barriers to entry. Aside from the fundamental differences between the traditional theoretical approach and the theory underlying current antitrust policy in the U.S. which we already treated supra, studies on the impact of vertical integration on barriers to entry are also rare, so that there is no evidence, either theoretical or empirical, for the general case.\textsuperscript{64}

In the case of a barrier-raising effect of vertical integration, the assertion that there is no direct short-run increase in market share as a consequence of vertical integration may still hold, but is weakened under the impression that market power could emerge or be increased as a result of the protection of barriers to entry. Hence one of the most common competitive objections to vertical integration is that it may raise barriers to entry to at least one of the relevant stages after vertical integration.\textsuperscript{65} To the extent that vertical integration impedes entry, there is an incentive to internalize successive stages of the production and distribution process, even if short-run profits suffer, because the preservation of a powerful market position may help to extract monopoly rents for a longer period of time.\textsuperscript{66}

\textsuperscript{64} Cf., e.g., Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 44; and Kaserman, Theories of Vertical Integration ..., supra, 505. Vertical integration may be seen as an impediment to dynamic competition as such, however, cf. Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920.

\textsuperscript{65} Cf., e.g., Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42-44; Kaserman, Theories of Vertical Integration ..., supra, 505; Koch, James V., Industrial Organization and Prices, 2nd ed., Englewood Cliffs, N.J., 1980, p. 264; and even Stigler, who is closely associated with the Chicago School, admits this concerning the aspect of capital raising disadvantages among newcomers: "(I)t is possible that vertical integration increases the difficulty of entry by new firms, by increasing the capital and knowledge necessary to conduct several types of operations rather than depend on rivals for supplies or markets", Stigler, The Organization of Industry, op. cit., 138.

\textsuperscript{66} Comanor, Vertical Mergers, ..., supra, 261; Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 44-46; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 75 f. Cf. similarly, Hovenkamp, Economics and Federal Antitrust Law, op. cit., 207, although he plays down the role of barriers as a result of vertical integration.
"To the firm, entry barriers are an asset which has value similar to that of a new machine or a well-received trademark, and, therefore, firms can be expected to adopt policies which can be explained only as an 'investment in entry barriers'. ... In this fashion, there may be a conflict between long-run behavior designed to promote entry barriers and a short-run profit maximizing behavior."

Whereas barriers to entry played a significant role in court cases in the attempt to determine whether market power would actually contribute to a lessening of competition or whether a firm would hold or increase a market dominating position as a consequence of a vertical or conglomerate merger, recent theoretical discussion emphasizes a position that denies or plays down an entry-barrier-raising-effect of vertical integration. This position has been a minority position thus far.

The primary objective of antitrust theory is to isolate the conditions under which vertical integration is likely to have an entry-barrier-raising effect. In a two stage case of total integration - all firms at a production stage are vertically integrated with the firms at the successive stage - there are no purchase or supply markets open to newcomers. Although vertical integration would increase barriers to entry to a maximum extent, the case is rather unlikely. In a two stage case with no barriers to entry at either of the stages, even a total vertical integration would not erect barriers to entry. Vertical integration is unproblematic in this case.

The realistic case, however, is the situation in which market entry is impeded at one of the stages in our two stage example and is not impeded at the other stage. In this context, there are three reasons why a need to enter at more than one stage extends barriers to entry to the next stage:

1. If for any reason new firms are forced to enter at more than one stage and have to overcome existing entry barriers at, for instance, stage A


69 Cf., e.g., Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 921.
in order to enter stage B as well, entry is also impeded at stage B because barriers to entry thus are factually present at stage B that would otherwise not be existent. Vertical integration may conceivably exert influence on entry barriers because "the necessity of multistage entry will transmit this barrier, a fortiori, from the former to the latter ... (and) integrated entry can be expected to be at least as difficult as single-stage entry at the most restricted stage".71

(2) Capital needs for potential entrants might increase if entry at more than one stage is required simultaneously. This not only happens as a result of capital market imperfections but also due to the fact that a monitoring of large vertically integrated firms may result in higher returns being required by investors. This in turn may drive up the costs of capital if it is raised in the equity market. However, this view is not shared by all scholars, particularly not by adherents to the current theoretical approach. Posner, for instance, holds that this reasoning is trivial and contains "a meaningless usage, since it is obvious that a new entrant must incur cost to enter the market, just as his predecessors, the firms now occupying the market, did previously". Nevertheless, this criticism only considers the aspect of the capital which has to be raised. It does not take into consideration that conditions on the capital market might alter to the disadvantage of new-

71 Kaserman, Theories of Vertical Integration ..., supra, 507; cf. as well Comanor, Vertical Mergers, ..., supra, 259; Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42; Kaysen/Turner, Antitrust Policy ..., op. cit., 121 f.
72 Cf. Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42; Kaserman, Theories of Vertical Integration ..., supra, 507; Mueller, Public Policy Toward Vertical Mergers, op. cit., 157; Scherer, Industrial market structure ..., op. cit., 303 f., who holds that "whether the interaction between vertical integration and capital market imperfections leads to significantly elevated entry barriers depends upon how large the required capital lump is" and upon a number of other factors; and even an adherent to current theory partly accepts the capital argument, Peltzman, Issues in Vertical Integration Policy, op. cit., 173.
73 Cf. Williamson, The Vertical Integration of Production ..., supra. But cf. Bork, Vertical Integration and Competitive Processes, op. cit., 142, who argues that such an effect is not likely.
74 Posner, Antitrust Law ..., op. cit., 59. Cf. as well, Bork, The Antitrust Paradox, op. cit., 242: "Neither of the entrants will have a capital cost greater than if the manufacturer had not integrated, and they will have a significant cost advantage over the monopolist."
comers trying to enter at more than one stage. Market entry at more than one stage reduces the production capabilities of newcomers because they have to start to produce at both stages. This is the reason why well informed capital lenders will demand a premium rate for increased risk. This may particularly be so in the case of transaction-specific investments that require large amounts of capital and if production processes are necessary at any stage that have to be supervised closely.75 Empirical evidence on the issue is ambivalent, however. Whereas evidence can be found that the amount of capital necessary and capital conditions pose a barrier to entry, the opposite is found as well.76

(3) Vertical integration is also believed to enhance product differentiation which is considered a further reason why it is believed to increase barriers to entry.77 Although product differentiation may be seen as a barrier to entry as well as a means of entry because of its informational function, as has been noted supra, it may stifle price competition in oligopolies just because of its dual character.78

This has demonstrated that it is not as unlikely as assumed by Chicago theorists that vertical integration raises barriers to entry. The majority of

75 Cf. Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 17, concerning the capital market conditions; and Williamson, Assessing Vertical Market Restrictions ..., supra, 926; and Idem, Economic Organisation ..., op. cit., 210 f., concerning the additional cost of transaction and information for newcomers.

76 Affirmed by Orr, Dale, The Determinants of Entry: A Study of Canadian Manufacturing Industries, 56 RES (1974), pp. 58-73, 65; rejected by Mason, Robert T., and Joseph Shaanan, Stochastic-Dynamic Limit Pricing: An Empirical Test, 64 RES (1982), pp. 413-423, 418. One should be aware of the cartel-like behavior of lenders and incumbents, however, which has been mentioned supra.

77 Cf. Bain, Barriers to New Competition, op. cit., 142; Comanor, Vertical Mergers, ..., supra, 262; Kaserman, Theories of Vertical Integration ..., supra, 507 f.: "Where firms manufacture their own inputs, homogeneity of the final product will be less likely to result since variations in intermediate product specifications will be facilitated by an internalization of the coordinating function."

78 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 70 f., who emphasizes the effectiveness of price competition in comparison to non-price parameters, the use of which may make it more difficult to respond to a competitor's action in the short run. Cf. as well Comanor, Vertical Mergers, ..., supra, 262.
empirical evidence confirms this assertion.\textsuperscript{79}

\textbf{e. Collusive Effects}

Another possible anticompetitive consequence of vertical integration may be the furthering of oligopolistic coordination, and hence collusion. For adherents of the current theoretical edifice, there is no connection whatsoever between vertical integration and collusion.\textsuperscript{80} It is thus appropriate at this point to recall briefly what the Chicago position on explicit and implicit collusion actually is.

The representatives of the theoretical approach underlying current U.S. antitrust policy judge explicit collusion, i.e., conspiracy or concerted action, and implicit collusion or spontaneous coordination, which is not covered by U.S. antitrust law, in a different manner.\textsuperscript{81}

In order not to reject American antitrust policy in toto Chicagoans express the opinion – partly for tactical reasons\textsuperscript{82} – that horizontal price conspiracies should be prohibited, since collective monopolies have the same effect on price and output as an individual monopoly. The tendency towards conspiracy increases when concentration increases and the number of competitors decreases. The necessity of public policy and legislation is accepted at least to this extent.\textsuperscript{83}


\textsuperscript{80} This becomes obvious if one makes a general review of the relevant works, cf. Bork, The Antitrust Paradox, op. cit., 239-245; Posner, Antitrust Law ..., op. cit., 196-201; and Stigler, The Organization of Industry, op. cit., 134 ff. For scholars that assume evidence on such a connection, cf., e.g., Comanor, Vertical Mergers, ..., supra, 262 f.; Hovenkamp, Economics and Federal Antitrust Law, op. cit., 202; Kaserman, Theories of Vertical Integration ..., supra, 510.

\textsuperscript{81} Cf. Posner, The Chicago School ..., supra, 932 f. and 944-946.

\textsuperscript{82} Posner, The Chicago School ..., supra, 932: "Partly, perhaps, for tactical reasons (not to seem to reject antitrust policy in its entirety), the members of the Chicago School would sometimes denounce price fixing."

Stigler, certainly, regards tacit or implicit collusion, i.e., spontaneous coordination, as a problem in markets with high interdependence due to a high degree of concentration. However, the other representatives of the Chicago School deny that implicit collusion actually restrains competition (Harvard School: conscious parallelism). 84 The Chicago School does not deny that concentration is an important factor in facilitating collusion; but the question which interests them much more is how excessive profits may be persistent without attracting newcomers in the long run since the entry of newcomers should actually cause a price decline.

Accordingly, market power positions that have not been caused by efficiency but rather by implicit collusion would be eroded because of entry by newcomers or it would force firms to lower their prices in order to prevent newcomers from entering the market. However, this reasoning takes for granted ideal markets without any barriers to entry – an assumption which we have already dealt with critically in one of the preceding sections.

The tenet on vertical integration and collusion formerly valid asserts that oligopolists may increase their ability to coordinate their economic activities by vertical integration because "structural and behavioral factors may interact to open a route through which vertically integrated firms may bypass markets which resist oligopolistic control in favor of others which do not". 85 This enables oligopolists to act like a collective monopolist and it enhances the likelihood of joint profit maximization. This may actually be the case, if at least one of two conditions is prevalent: 86

1. There are some chains of production and distribution, the different stages of which are characterized by extreme fluctuations in supply or demand. In the case of a second stage purchaser, for instance, heavily

85 Comanor, Vertical Mergers, ..., supra, 262 f. Cf. as well, Chandler, The Visible Hand ..., op. cit., 367; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 73 f.
86 Cf. Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 46, who state the incorrect assumption that input oligopolists have no interest in enforcing price discipline in the output market. As has been demonstrated supra, this holds only for restrictive conditions and for a transfer of the reasoning of a monopoly case to an oligopoly case.
fluctuating available supplies control his output in the sense that the output is determined by factors largely exogenous to the industry and not subject to effective oligopolistic control. Backward vertical integration may now install patterns of oligopolistic rationality at the supply stage.87

(2) An elimination of independent economic decision units along the chain of production and distribution of an industry by means of vertical integration may lead to 'interdependent planning uncertainty' which is likely to improve the ability of firms to cooperate. This may have two separate effects. On the one hand, a vertically integrated oligopolist who eliminates frequent price changes as an external factor contributes to oligopolistic communication and harmonizes divergent interests among the leading firms.88

On the other hand, the costs of maintaining collusive behavior in an oligopoly may be reduced by vertical integration since the number of economic decision units is reduced. This can be assumed to make the harmonization of divergent interests easier and less costly on the horizontal level.89

However, there is also a potential in vertical integration that may make pricing more competitive. In case where there is a loose oligopolistic structure among sellers on one hand, and a tight oligopoly structure among buyers on the other, the presumed pattern of behavior is more competitive than if the buyers’ side were characterized by an atomistic structure. This effect may

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87 For the classical example on the oligopolistically structured U.S. steel industry, cf. Adams/Dirlam, Steel Imports and Vertical Oligopoly Power, supra, who found out that the pricing discipline in the industry in terms of final product prices was maintained because producers of steel were vertically integrated backward into the input market and controlled prices there. Cf. as well, Comanor, Vertical Mergers, ..., supra, 262-264; Perry, Martin K., Forward Integration by Alcoa: 1888-1930, 29 JIE (1980), pp. 37-53.


actually be strengthened if the tight oligopoly on the buyers' side is asymmetric (disruptive buyers). This is so because the buyer may receive concealed extra conditions from various suppliers which may vitalize price competition. The elimination of a disruptive buyer would tend to harm the intensity of price competition, enhance the potential for price discrimination, and thus deter effective competition.

There are a number of conditions, however, that potentially weakens the above conclusion:

- The buyer has bargaining leverage which the smaller buyers lack and which enables the large buyer to extract advantages over his smaller competitors and thus discriminate prices, the effect of which is ambiguous;
- whether all the benefits of countervailing power are passed on to the consumers depends on the absence or presence of market power on the selling side of the market; and
- concessions unrelated to costs may be squeezed from the suppliers, unless discipline in the supplier oligopoly is strong (spreading). Although this may be beneficial to consumers in the short run, it may lead to market power and anticompetitive consequences in the long run.

Contrary to current theory, we have seen that the arguments that vertical integration enhances the ability to collude has some force, although only under specific conditions:

"The anticompetitive story becomes more convincing when conditions at the manufacturing level are most conducive to oligopolistic coordination - for example, in mature, highly concentrated, homogeneous product industries with uniform cost conditions, significant entry barriers, and a comprehensive pattern of vertical integration into distribution."


The comprehensive pattern of vertical integration seems to be of particular importance. Often, oligopolies show a behavioral pattern that rules out price competition. Price competition is replaced by nonprice competition through the acquisition of downstream enterprises. Disadvantaged rivals tend to have an incentive to buy further potential customers because of their fear of being foreclosed:93 "The first to integrate continued to dominate."

3. The Likelihood of Anticompetitive Effects and Revised Policy Conclusions

According to the aforementioned view, vertical strategies in general and vertical mergers in particular are perceived only to serve as a means for the achievement of an increase in productive efficiency and not to obtain monopoly power, since "firms cannot in general obtain or enhance monopoly power by unilateral action - unless, of course, they are irrationally willing to trade profits for position."94

Because a coherent economic approach underlying the anticompetitive effects of vertical mergers has not presented thus far and vertical integration is viewed as primarily efficiency-enhancing, these arrangements should not merit legal scrutiny.95 According to Bork, U.S. antitrust policy has dealt with the effects of vertical mergers for more than 60 years without having succeeded in the development of an adequate theory that demonstrates the negative effects of such mergers on competition in a clear way. It is empha-


95 Cf. Bork, The Antitrust Paradox, op. cit., 228: "Vertical integration is often believed somehow to cause or permit a firm to behave differently than it would in the absence of integration. Aside from the efficiency effect, however, it is clear that vertical integration does not affect the firm's pricing and output policies."
sized that vertical mergers do not increase the firm's ability to restrict output because the ability to restrict output depends upon the market share in the market occupied by the firm. Whereas horizontal mergers increase market share, vertical mergers do not. Therefore, it is concluded that

"(a)ntitrust concern with vertical mergers is mistaken. Vertical mergers are means of creating efficiency, not of injuring competition. There is a faint theoretical case, hardly worth mentioning, that vertical mergers can be used by very large firms for purposes of predation under exceptional circumstances, but it is highly doubtful that that narrow possibility has any application to reality." \(^{96}\)

In this context, Posner emphasizes that at least in academic circles a positive evaluation of vertical mergers is gaining ground. The peril that vertical mergers pose is regarded as small or rare in occurrence due to underlying circumstances.\(^{97}\)

However, Williamson correctly emphasizes the likelihood of the occurrence of anticompetitive effects in that the attempt to realize an increase in efficiency may have adverse effects on competitors at the same time. While forward integration may represent an effort to realize private gains with resulting efficiency advantages at one stage, "it may constitute an unneeded restraint at a later stage and indeed may serve strategically to disadvantage rivals if it is continued".\(^{98}\) We have pointed out conclusively that anticompetitive consequences are realistic outcomes of vertical integration under specific circumstances.

Efficiency considerations are important in evaluating vertical integration; nevertheless anti-competitive effects should not be left out of consideration.

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\(^{96}\) Bork, The Antitrust Paradox, op. cit., 226; and idem, Vertical Integration and Competitive Processes, op. cit., 149.


\(^{98}\) Williamson, Assessing Vertical Market Restrictions ..., supra, 965. Along the same line, cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., §1015a, but see, ibid., § 1002, who denotes that vertical mergers are primarily efficiency-motivated and that there is no "reason to assume that a vertical merger which lowers costs and prices, thus benefitting consumers, is 'unfair' to rivals in any reasonable antitrust sense of that term, particularly when those rivals can achieve comparable economies through vertical integration, by merger or otherwise."
This makes it necessary to determine the circumstances under which competition will be reduced unduly.99

The aforementioned line of reasoning emphasized three standards for presumptive illegality of a vertical merger. It should presumed to be illegal if:
- horizontal market shares of the integrating firms are substantial in terms of our considerations regarding horizontal mergers100;
- substantial market barriers are already present or created at either stage by vertical integration101; and/or
- the market the firm vertically integrates into is already a tight oligopoly and collusion is promoted further by this merger.102

The actual problem is that these standards are hardly used in the enforcement process under the current guidelines, which becomes obvious if one considers the number of cases brought before court. If they were enforced, however, they would largely act as appropriate standards for the evaluation of vertical mergers.103

99 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015; Sullivan, Handbook of the Law of Antitrust, op. cit., 667-669; and Williamson, Oliver E., Vertical Merger Guidelines: Interpreting the 1982 Reforms, 71 CLR (1983), pp. 604-617, 614. This reasoning was accepted in the 1982 Merger Guidelines but the threshold for challenging non-horizontal mergers was set rather high. It would have been better to lower the threshold and to introduce an efficiency defense with the burden of proof on the defendant.

100 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015d, who propose that a merger should not be challenged if the market share is below 15 percent; cf. as well Shepherd, Public Policies ..., op. cit., 234. This implies that vertical integration is primarily a horizontal problem, cf. Dirrheimer/ Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 15. A real exception would be a toehold acquisition which would enable a low market share firm acquired to receive resources and intensify competition at its stage.

101 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015a, who propose that these barriers have to be at both stages; cf. as well Shepherd, Public Policies ..., op. cit., 235; and Williamson, Antitrust Economics ..., op. cit., 57.

102 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015a, who require a concentration ration of CR4=75% in both of the markets; cf. as well Shepherd, Public Policies ..., op. cit., 236; and Williamson, Antitrust Economics ..., op. cit., 58. Currently the Merger Guidelines propose a Hirschman-Herfindahl index of 1.800 which resembles a CR4 of 70%, cf. Williamson, Oliver E., Vertical Merger Guidelines ..., supra 615.

103 If welfare is considered to be the only goal of antitrust policy, enforcement became somewhat more lenient towards vertical integration, cf. Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 192 f.
IV. Concluding Remarks

Unlike in the case of antitrust policy towards horizontal mergers, there is no consistent economic approach underlying the policy regarding vertical mergers, i.e. there exists no theoretical basis comparable to the concentration collusion-doctrine.

Whereas vertical integration traditionally used to be associated primarily with anticompetitive effects, recent research has emphasized possible economic advantages of contractual linkages and vertical integration, particularly in comparison to the market mechanism, which are supposed to lead to real resource and cost savings. This resulted in a strong notion among economists that vertical arrangements in general and vertical mergers in particular are efficiency-enhancing, carry little or no anticompetitive effects, and therefore should not be considered per se illegal. The possible occurrence of both desirable efficiency effects as well as undesirable anticompetitive effects seems to make necessary an economic trade-off between these two effects. As far as our view is concerned, the multiple-goal perspective of antitrust policy has to be born in mind.

The question whether efficiency-enhancement really represents the sole motivation of merging firms for vertical integration or whether vertical integration is also performed because it may be a source and carrier of market power strongly determines the effectiveness of the transaction-cost approach as an adequate basis for the evaluation of efficiency-effects of vertical mergers. Vertical integration is indeed a source and carrier of market power, which makes the trade-off lose its explanatory power concerning the transaction mechanism chosen. Even if the cost of an economic transaction by the market were less than the intra-corporate coordination costs for an economic transaction, there would remain a motivation to merge, until the excess profits from a monopoly or limit price strategy would equal the total cost difference resulting from the two transaction mechanisms. Such a rationale is ruled out by the adherents of current theory, however, because of restrictive premises and assumptions. Under realistic premises and assumptions, the generality of the pro-efficiency argument is not tenable. Private efficiency gains and social efficiency gains must be separated from each other in such a case.
A trade-off is certainly needed for the determination of the counteracting effects of vertical integration or vertical mergers. However, it has to be performed on a positive as well as on a normative level of analysis, encompassing the shortcomings of current theory on the positive level and the intentions of legislation on the normative one.

The achievement of efficiencies has to be demonstrated because we may not presume a priori that efficiency-enhancement is the only objective of an economic agent, at least not in the sense of overall economic efficiency that translates on a one-to-one basis into consumer welfare. Thus we have to include qualifications to the unrealistic assumptions of current theory, i.e., bear in mind that real world markets do not work in a frictionless manner, barriers to competition do exist, and are often significant, and that a comparison of organization costs with transaction costs of the market is often unfeasible.

On a normative level, public goals other than just consumer welfare have to be taken into account. This is considered a legitimate intention because the incipience doctrine still considered valid by the courts has to be viewed as a result of the legislator’s willingness to maintain unconcentrated structures and eventually sacrifice efficiencies in order to maintain competition.

A variety of empirical studies have tried to find support for the implications of the transaction-cost approach by citing evidence that transaction-cost specific market characteristics pose an incentive for vertical integration:

- The results confirm the implications of the transaction-cost approach only when grounds for vertical integration other than efficiency can be excluded. Nevertheless, there may be other causal factors responsible for an incentive to integrate (e.g., tax avoidance).
- We are not sure in any case whether efficiency gains are passed on to consumers, i.e. whether sufficient competitive pressure to ensure this actually prevails, nor have we empirical studies thus far explicitly elaborated on possible anticompetitive effects as a result of increased vertical integration.

None of the empirical studies on cost savings from increased vertical integration show quantitative results on marginal transaction-costs across different mechanisms of coordination along the various stages in the chain of production and distribution. This seems particularly important concerning
the isolation of motives underlying an increase in vertical integration. In the case of a net increase in efficiency there would be an affirmation of the efficiency-enhancement hypothesis, although we would not be sure whether this increase would necessarily be passed on to consumers as current theory contends. However, empirical findings which show a decrease in efficiency in the case of increased vertical integration — reversing the reasoning — suggest a motivation other than efficiency-enhancement. Empirical studies on this aspect are scarce and their results are ambiguous, to say the least.

The main obstacle to unambiguous conclusions is the problem of distinguishing efficiency, i.e. cost saving effects from all other consequences, such as market power, price discrimination, evasion of regulation, tax avoidance, and the like. The crucial deficiency seems to be that the results are compatible with an efficiency as well as with a market power explanation. Thus, the use of a marginal transaction-cost approach which leads to the aforementioned trade-off, seems plausible at first sight. However, it remains ineffective and thus an empty box as long as it is not possible to determine the correct amounts in order to perform the trade-off.

Furthermore, the general applicability of the transaction-cost approach and similar approaches to a theory of institutional change has to be questioned. The microeconomic concept of efficiency is to been seen as crucially important for the application of the transaction-cost approach. The ability of the price system to alter economic systems in the direction of efficient economic arrangements in vertical terms depends on sufficient competitive pressure in horizontal terms. It may be realistically asserted, however, that economic equilibrium is absent in most if not all of our markets and furthermore that market imperfections and oligopolistic structures prevail. In this case, economic logic supports no causal inferences about the role of efficiency in determining social or organizational structures. The market imperfections make it less likely that the most efficient competitors will prevail in the end. Concerning the assumption of an essentially frictionless and perfectly competitive market, as assumed by the adherents of current theory, it can be held that the imperfections actually found in reality may finally be responsible for the fact that financial and market power, not economic efficiency, may determine the winners in the competitive process.
The assertion that meaningful barriers to competition do not exist and, hence, sufficient competitive pressure is continuously present—regardless of the existing structural features of the markets involved in vertical integration—tends to define market power problems away, as well as the likelihood of anticompetitive consequences. The absence of power results in efficiency and this efficiency is considered synonymous with consumer welfare.

The terms transaction-costs and organization costs are difficult to handle and in specific cases they can neither be determined in a precise manner empirically nor quantitatively measured. The terms are largely used in a way that allows justification of certain phenomena ex post; this leads to the possibility that any development can be justified—but only ex post and crudely. As a result, the concept tends to become tautologous.

Whereas horizontal mergers increase market share, vertical mergers do not. However, one must emphasize the likelihood of the occurrence of anticompetitive effects insofar as the attempt to realize an increase in efficiency may have adverse effects on competitors at the same time. While forward integration may represent an effort to realize private gains with resulting efficiency advantages at one stage, it may constitute a restraint at a later stage and indeed may serve strategically to disadvantage rivals if it is continued.

Although a coherent economic approach on anticompetitive effects of vertical mergers has not been presented thus far and antitrust policy has dealt with the effects of vertical mergers without having succeeded in developing an adequate theory that demonstrates the negative effects of such mergers on competition in a clear way, there may be anticompetitive effects under certain conditions that have to be anticipated from vertical mergers. In this context, large market shares as a proxy for individual market power at the integrating firm's stage, creation or elevation of market barriers at either stage, and/or the existence of a tight oligopoly at the stage of integration should be considered appropriate to serve as standards for presumptive illegality.