

RESEARCH PAPER

“Usage of efficiency tests in assessing competitive effects of joint ventures - Case for India.”

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## **ABSTRACT**

The (Indian) Competition Act, 2002 (as amended) (*Competition Act*) aims to prevent anti-competitive practices by enterprises that cause or are likely to cause an “appreciable adverse effect on competition” in India (*AAEC*). The Competition Act regulates (a) anti-competitive agreements (Section 3), (b) abuse of dominant positions (Section 4), and combinations/merger control (Sections 5 and 6).

The Competition Act, although enacted in 2002, has been brought into force in a phased manner. Sections 3 and 4 of the Competition Act (relating, respectively, to anti-competitive agreements and abuse of dominance) became effective on May 20, 2009. Sections 5 and 6, dealing with merger control, become effective on June 1, 2011.

Section 3 provides that an agreement (which includes an arrangement or understanding) restricting the production, supply, distribution, acquisition or control of goods or provision of services which causes or is likely to cause an AAEC within India is a breach of the Competition Act. Large fines, damages, and voidness are just some of the remedies/sanctions provided for under the Competition Act in the event of a breach.

Certain horizontal agreements between competing enterprises (engaged in the identical or similar trade of goods or provisions of services) such as price-fixing, limiting production/supply/technical development, customer/territorial allocations, and bid-rigging, are covered by Section 3(3) of the Competition Act and are “presumed” to cause an AAEC. However, the proviso to Section 3(3) of the Competition Act, which covers such agreements, provides that such agreements will not be presumed to cause an AAEC if such activities are carried out by way of a joint venture that increases efficiency in production, distribution, storage etc. Therefore, although there is a “way out” of the presumption of AAEC for such agreements, an efficiencies analysis for joint ventures is required in order to avoid being caught by the presumption.

Various efficiency and other consumer welfare tests, such as the profit sacrifice test, the equally efficient firm test, and the consumer welfare balancing test have been used in competition cases in the United States, European Union, United Kingdom, and Australia for more than a decade. In the US, the “Chicago school” seemingly revolutionized antitrust analysis, wherein the courts and antitrust agencies used empirical analysis and various efficiency tests before ruling over the legality of any (competition) conduct<sup>1</sup>. In the EU, Article 101 of the Treaty on the Functioning of the European Union (*EU Treaty*) expressly prohibits competitive conduct in case of agreements or joint ventures between firms and also lays emphasis on consumer welfare.

Although there have not yet been decisions in India on the issue (because of the nascency of the Competition Act), it remains to be seen how the “efficiencies defense”, as it has come to be known, will evolve in competition cases in India<sup>2</sup>. While still in its “ramp up” phase, economics will likely play an important role in the evolution of Indian competition law. The article proposes a framework, using international competition law precedent, by which the Indian competition regulator (i.e., the CCI), as well as companies thinking about how joint ventures will be analyzed under the Competition Act, can use to evaluate claims of an efficiency-enhancing joint venture. Given that the primary objective of the Competition Act is to protect “competition” and not “competitors,” analysis of efficiencies will likely become central to the question of liability under Section 3(3) of the Competition Act.

## **KEYWORDS**

**Joint ventures, usage of efficiency tests, economic evidence in India, role of economists.**

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<sup>1</sup> Reconciling the Harvard and Chicago Schools: A New Antitrust Approach for the 21st Century THOMAS A. PIRAINO, JR.

<sup>2</sup> It will also be interesting to see what roles efficiencies plays in the context of merger control.

## I. INTRODUCTION

The (Indian) Competition Act, 2002 (as amended) (*Competition Act*) aims to prevent anti-competitive practices by enterprises that cause an “appreciable adverse effect on competition” in India (*AAEC*). Although enacted in 2002, the Competition Act is being brought into force in a phased manner. The Competition Act regulates (a) anti-competitive agreements (Section 3), (b) abuse of dominant positions (Section 4), and combinations/merger control (Sections 5 and 6). Sections 3 and 4 of the Competition Act (relating, respectively, to anti-competitive agreements and abuse of dominance) became effective on May 20, 2009, and Sections 5 and 6 (relating to merger control) became effective on June 1, 2011.

These are still early days for the Competition Commission of India (*CCI*), which is the primary competition law decision-maker, as it sets out to rule on various acts and practices that are covered under the Competition Act. While the CCI can rely on legal precedents set by advanced competition jurisdictions around the world such as the EU and the US, it will be interesting to see how the CCI views these issues. The purpose of this paper is to shed light on certain sections of the Competition Act, how the Competition Act compares with other jurisdictions, namely the US and the EU, and how we think enforcement is likely to evolve over time. We illustrate this using the example of joint ventures and how they are dealt with in the Competition Act.

## II. BACKGROUND

### 1. *Competition Act and the Concept of Joint Ventures*

The Competition Act aims at preventing anticompetitive practices by enterprises which have or are likely to have an AAEC. Section 3 of the Competition Act deals with anti-competitive agreements, and Section 3(3) deals specifically with certain types of horizontal arrangements (i.e., between enterprises engaged in identical or similar trade of goods or provision of services. Stated another way, it appears Section 3(3) covers certain agreements between actual or potential

competitors to fix prices, divide markets (e.g., by territory or by customer), to restrict output or fix out of a supposedly competitive bid. In other jurisdictions, these agreements are generally considered to be a *per se* problem and are an obvious target for any system of competition law. To some degree, the Competition Act takes a similar view that such agreements are presumed to (but do not *per se*) cause an AAEC.

Section 3 (3) of the Competition Act provides that:

*“any agreement entered into between enterprises or associations of enterprises or persons or associations of persons or between any person and enterprise or practice carried on, or decision taken by, any association of enterprises or association of persons, including cartels, engaged in identical or similar trade of goods or provision of services, which—*

- a) directly or indirectly determines purchase or sale prices;*
- b) limits or controls production, supply, markets, technical development, investment or provision of services;*
- c) shares the market or source of production or provision of services by way of allocation of geographical area of market, or type of goods or services, or number of customers in the market or any other similar way;*
- d) directly or indirectly results in bid rigging or collusive bidding,*

*shall be presumed to have an appreciable adverse effect on competition:*

*Provided that nothing contained in this sub-section shall apply to any agreement entered into by way of joint ventures if such agreement increases efficiency in production, supply, distribution, storage, acquisition or control of goods or provision of services .....*”

*(emphasis added)*

It is relevant to point out that the term “*joint venture*” is not defined under the Competition Act or any other legislation currently in force in India. In the absence of a statutory definition, it is not clear as to whether the CCI would construe the term as generally understood under Indian

law and place reliance on judicial precedents or whether the CCI would rely on interpretations given to the term “joint venture” in other jurisdictions with mature competition law regimes (e.g., in the EU, where joint venture requires joint control by two or more independent parents). In this context, it is critical to first determine whether a particular arrangement can be termed as a joint venture agreement under Indian law.

## ***2. Indian Supreme Court on the concept of Joint Ventures***

As noted above, the term “joint venture” is not defined in the Competition Act. Moreover, concepts such as “full functionality” of joint ventures have not made an appearance in the Competition Act itself, the few cases actually decided by the CCI, or guidance issued by the CCI. Accordingly, an examination of general principles of Indian law can be used to discern how the term joint venture can be used for purposes of the Competition Act.

In that regard, the Indian Supreme Court, in the case of *Faqir Chand Gulati vs. Uppal Agencies Pvt. Ltd. and Anr.*<sup>3</sup>, while dealing with the issue of whether an agreement under which a builder agreed to construct housing for a land owner was a “collaboration agreement/joint venture”, or whether the activity of the builder fell squarely within the definition of “service”, made an attempt to define the term “joint venture”.

The Court, in the above decision, quoted the definition relied upon by it in the case of *New Horizons Ltd v. Union of India*.<sup>4</sup> There, the Court held that the expression “joint venture” connotes a legal entity in the nature of a partnership engaged in the joint undertaking of a particular transaction for mutual profit or an association of persons or companies jointly undertaking some commercial enterprise wherein all contribute assets and share risks. It requires a community of interest in the performance of the subject matter, a right to direct and govern the policy in connection therewith, and duty, which may be altered by agreement, to share both in profit and losses. Additionally, the Court also placed reliance on the following definitions of the term “joint venture”:

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<sup>3</sup> (2008) 10 SCC 345.

<sup>4</sup> (1995) 1 SCC 478.

As defined in American Jurisprudence,<sup>5</sup> “a joint venture is an association of two or more persons formed to carry out a **single business enterprise for profit**. More specifically, it is in **association of persons with intent, by way of contract, express or implied, to engage in and carry out a single business venture for joint profit**, for which purpose such persons combine their property, money, effects, skill, and knowledge, without creating a partnership, a corporation or other business entity, pursuant to an agreement that there shall be a community of interest among the parties as to the purpose of the undertaking, and that each joint venturer must stand in the relation of principal, as well as agent, as to each of the other co-venturers within the general scope of the enterprise.....A joint venture is to be distinguished from a relationship of independent contractor, the latter being one who, exercising an independent employment, contracts to do work according to his own methods and without being subject to the control of his employer except as to the result of the work, while a joint venture is a special combination of two or more persons where, in some specific venture, a profit is jointly sought without any actual partnership or corporate designation.”

*Corpus Juris Secundum*<sup>6</sup> defines “joint venture” as, “a term used interchangeably and synonymous with “**joint adventure**”, or “**co-venture**”, and is a special combination of two or more persons wherein some **specific venture for profit is jointly sought** without any actual partnership or corporate designation, or as an association of two or more persons to carry out a single business enterprise for profit or a special combination of persons undertaking jointly some specific adventure for profit, for which purpose they combine their property, money, effects, skill, and knowledge.... Among the acts or conduct which are indicative of a joint venture, no single one of which is controlling in determining whether a joint venture exists, are: (1) **joint ownership and control of property**; (2) **sharing of expenses, profits and losses, and having and exercising some voice in determining division of net earnings**; (3) **community of control over, and active**

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<sup>5</sup> 2nd Edition, Vol.46 pages 19, 22 and 23.

<sup>6</sup> Vol. 48A pages 314-315.

*participation in, management and direction of business enterprise; (4) intention of parties, express or implied; and (5) fixing of salaries by joint agreement.*

*Further, the court also relies on the definition of “joint venture” as defined in the Black’s Law Dictionary<sup>7</sup>. Black’s Law Dictionary defines “joint venture” as, “a business undertaking by two or more persons engaged in a **single defined project**. The necessary elements are: (1) an express or implied agreement; (2) a common purpose that the group intends to carry out; (3) shared profits and losses; and (4) each member's equal voice in controlling the project.”*

(emphasis added)

### **3. Financial Reporting of Interests in Joint Ventures - Accounting Standard 27 (AS 27)**

Accounting standards in India require a joint venture to be jointly controlled by its parents, but it is not clear whether the concept of joint control will be imported into the Competition Act. The objective of AS 27 is to set out principles and procedures for accounting for interests in joint ventures and reporting of joint venture assets, liabilities, income and expenses in the financial statements of venturers and investor. Section 3 of AS 27 defines the term “joint venture” as, “a contractual arrangement whereby two or more parties undertake an economic activity, which is subject to **joint control**” (emphasis added). Joint control is defined as contractually agreed sharing of control over an economic activity and control is defined as the power to govern the financial and operating policies of an economic activity so as to obtain benefits from it. Therefore, at least under Indian accounting standards, joint ventures are characterized as follows: (a) two or more venturers are bound by a contractual arrangement; and (b) the contractual arrangement establishes joint control.

The contractual arrangement may be evidenced in a number of ways, for example by a contract between the venturers or minutes of discussions between the venturers. In some cases, the arrangement is incorporated in the articles or other by-laws of the joint venture. Whatever its

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<sup>7</sup> 7th Edition, page 843,



form, the contractual arrangement is normally in writing and deals with matters as: (i) the activity, duration and reporting obligations of the joint venture; (ii) the appointment of the board of directors or equivalent governing body of the joint venture and the voting rights of the venturers; (iii) capital contributions by the venturers; and (iv) the sharing by the venturers of the output, income, expenses or results of the joint venture. The contractual arrangement establishes some level of practical “joint control” (as opposed to competition law-based joint control) over the joint venture. Such an arrangement ensures that no single venturer is in a position to unilaterally control the activity. The arrangement identifies those decisions in areas essential to the goals of the joint venture which require the consent of all the venturers and those decisions which may require the consent of a specified majority of the venturers.

Therefore, under India accounting standards, an arrangement can only qualify as a joint venture if there is (a) commonality of interest, (b) profit/risk sharing; and (c) some kind of right to govern the affairs the joint venture.

#### ***4. Efficiency defence and Section 3(3) of the Competition Act***

To avail the benefit of the efficiency “defence” under Section 3(3) of the Competition Act, any arrangement must qualify as joint venture. Whilst competition authorities around the world view horizontal agreements with a degree of suspicion, all horizontal arrangements cannot be prohibited outright as efficiency gains may follow from cooperation (even among actual or potential competitors) that are sufficient to outweigh any restriction of competition.

In realization of the same, the proviso to Section 3(3) of the Competition Act provides that the presumption under Section 3(3) shall not apply to any agreement “entered into by way of joint ventures if such agreement increases efficiency in production, supply, distribution, storage, acquisition or control of goods or provision of services.” In other words, the presumption that an agreement would cause an AAEC would not apply to joint venture agreements if the agreement could be shown to increase efficiency in production, supply etc. An interesting aspect of this *proviso* is that it must be demonstrated that there is an **increase** in efficiencies as a result of the

arrangement. However, there is nothing in the Competition Act providing guidance as to the benchmark to be used for assessing the **increase**. Therefore, during the course of an investigation into an arrangement where such defence is being put forward, inputs from the economists would become critical.

To determine whether a joint venture agreement would have an AAEC, the CCI would give due regard to factors as mentioned in Section 19(3) of the Competition Act, i.e., (a) creation of barriers to new entrants, (b) driving existing competitors out of the market, (c) foreclosure of market, (d) improvements in production or distribution etc, improvements in production or distribution of goods or provision of services, and (f) promotion of technical, scientific and economic development by means of production or distribution of goods or provision of services.

While claiming an efficiencies defence for a joint venture transaction, if the joint venture is challenged under Section 3, parties to the joint venture will very likely need to submit and justify their conduct upon factors such as, (a) the precise *nature* of the claimed efficiencies, (b) the *link* between their transaction and the efficiency, (c) the *realistic likelihood and magnitude* of the claimed efficiency, and (d) *how* the efficiency will be generated. In such a submission, parties will need to demonstrate to the CCI the details of the methodology in arriving at the claimed efficiencies.

For this purpose, parties need to provide precise quantitative analysis data, or, in the absence of such data, clearly identifiable and positive impact of the agreement. The Guidelines on the applicability of Article 101(3) of the TFEU lists various types of efficiencies, such as:

- *Cost efficiencies* arising from development of new production technologies, integration of existing assets, economies of scale, economies of scope, and better capacity utilization.
- *Qualitative efficiencies* arising from improvements in quality because of technological advances, research and development, combination of assets which results in higher quality and products with novel features and distribution channels.

That being said, it is important to note that the proviso to Section 3(3) of the Competition Act and Article 101(3) of the TFEU are not perfect analogues. For example, Article 101(3) requires an element of indispensability of the action at issue, whereas the Indian law does not. It will be interesting to see whether and to what extent Article 101(3) will form the predicate of the CCI's views on efficiency-enhancing joint ventures.

### **III. THE USE OF ECONOMIC ANALYSIS FOR ENFORCEMENT OF COMPETITION LAW – CASE OF JOINT VENTURES**

Economic analysis plays a crucial role in the enforcement of competition law. Various jurisdictions around the world are at differing levels of sophistication when it comes to applying economic analysis to rule on competition law issues. In the US and the EU, economic analysis is a significant part of the evidence used to assess competition law matters. As we discuss below, we believe that India will ultimately follow a similar route.

#### ***1. The Method of Economic Analysis***

While competition law lays out the acts and practices that are deemed to be anticompetitive, economic analysis is a tool that is used by both the competition authority and the parties who it seeks to regulate to determine – on a case-by-case basis - if these acts and practices would have had an adverse impact on competition and consumer welfare. In cases where an act prohibited or deemed illegal by the competition authority is committed by the market participants, then economic analysis is used to estimate the extent of damage caused to the consumers as result of these acts.

Specifically, economic analysis is used to (a) analyze the merits of a case – assess whether economic theory would support a complainant's claim of an act or transaction having an anticompetitive impact – and, (b) to measure the harm that was caused to competitors and/or consumers because of the alleged anticompetitive act or transaction.

For this purpose, economic analysis has to be quantitative in nature. Quantitative analysis refers to the use of empirical techniques with data collected from the real world to test hypotheses that allow us to answer questions. Therefore, while performing quantitative analysis care must be exercised to identify the hypotheses that are to be tested and the data to be used for the analysis. Before the hypotheses that are relevant to answer the question at hand are identified, the appropriate economic theory that addresses the issue has to be determined. Economic theory provides the framework within which the problem is analyzed. For instance, in an analysis to define the relevant product market for competition law purposes, one of the steps is to assess if consumers can readily switch to other similar products if the price of the product in question increases (a significant and non-transitory increase). In order to answer this question, the economic theory of demand has to be used. Based on certain assumptions relating to the objectives and constraints faced by consumers, the economic theory of demand provides the relationship between quantity demanded of a product and various factors that influence demand such as the price of the product, income of the consumer, seasonal factors, price of substitute goods, price of complement goods, etc.

From this economic theory of demand, the hypothesis that tests the relationship between the demand for the product in question and the price of its substitutes is framed. In this case, the hypothesis would state that there is no relationship between the price of the substitute product and the demand for the product in question.

This hypothesis is tested by collecting data about price of the product, quantity demanded of the product, income levels, price of substitute and complements, and all other variables that are defined in the framework or the model. Once the data and the model is in place, econometric techniques (a statistical technique used to estimate the relationship between a variable and host of other variables that influence it) are used to estimate the model and test whether there is statistical evidence to reject or accept this hypothesis.

## ***2. Objectives of Competition Law – US and EU Positions***

Before we elaborate on how economic analysis is used to evaluate the effects of joint ventures on competition and consumer welfare in two advanced jurisdictions, the US and EU, we address the objectives of competition law in general and in the two jurisdictions.

Competition law is primarily an economic legislation (i.e., the core of competition law deals with economic issues). Specifically, it deals with regulation of business activities and practices that impose a cost on consumers and producers/sellers in the marketplace. At a broad level, competition authorities are vested with the responsibility of protecting consumer welfare by ensuring that all producers/sellers have access to a level playing field. Competition law seeks to regulate business practices and transactions that impede competition with a broader goal of protecting consumer welfare. Consumer welfare is defined as the benefit that individuals get from consumption of goods and services. Consumer welfare is maximized when goods and services are made available to consumers at the lowest possible market price. The lowest possible price is a price below which suppliers will not be willing to produce and sell the product or service in the market place.

There are other dimensions to consumer welfare as well. Consumer welfare is enhanced when consumers have the choice or freedom to buy a good or service in an unhindered manner. Any acts or practices reducing the number of producers in the marketplace or in any way restricting the consumer from buying the product or service from a seller of their choice reduces consumer welfare. Consumer welfare is also reduced when certain business practices or acts have the effect of reducing the number of products and services that would have otherwise been supplied in the market.

Economic theory relating to consumer and firm behavior, and market structures provides the basis for the regulations under competition law that focus on acts and practices that impede competition. While consumer behavior provides the basis for (a) demand – the relationship between price and the quantity purchased and the sensitivity of demand to changes in prices (price of the product, price of substitutes and complements); (b) firm behavior provides the cost at which producers can produce and bring various quantities of the product or service to the market; and (c) market structure provides the basis of determining how individual firms behave

when faced with varying degrees of competition – a monopoly, duopoly, oligopoly or perfect competition – and how this translates into market supply and market prices.

The respective competition policies in the US and EU have, to a degree, been developed with common objectives. The policies seek to ensure that there is free movement of goods, there is competition in the economy, and the consumer interests are protected.

There is a subtle difference however between the US and the EU when it comes to the objective of competition law. While the US looks at consumer welfare as a key objective, competition law in the EU has been seen as instrument to also facilitate the integration of the member states, facilitate smooth flow of goods and services, and aid economic growth. This could be because, as opposed to the US, the EU is a union of nations in different stages of economic growth and technological development. The EU therefore tries to ensure competitive opportunities for small and medium-size firms and improvement in the economic situation of worse-off nations.

As a result, there is an element of fairness that is present in its competition policy. Joint ventures, mergers, and other collaborations, are looked on with a slight leniency, as they might be necessary to enhance technological development and therefore to allow European firms to compete effectively in global markets. Article 101(3) of the TFEU states that otherwise void agreements or combinations may be exempted if they “contribute to improving the production or distribution of goods or to promoting technical or economic progress...” as long as consumers are given a fair share of the resulting benefits.

In the US, the stress is more on ensuring competition in the market, and that there is no monopolizations or attempts to monopolize. American case law and guidelines with respect to mergers, therefore, revolves around concerns that mergers would lead to undue concentration, which would facilitate the exercise of market power. As a result, American competition enforcement centers heavily on prevention of mergers and joint ventures that threaten competitiveness.

Efficiencies, or advantages, that might arise as a result of a joint venture or merger, are generally viewed with skepticism in the US. The basic premise is that a competitive market would automatically be an efficient one. In the EU, because of its development objectives, efficiencies become relevant, but only if mergers and agreements are to the consumer's advantage and do not form an obstacle to competition.

### *3. Analysis of Efficiencies of Joint Ventures*

Efficiency in our context (i.e., the Competition Act) likely refers to any advantages or benefits that firms might be able to enjoy if they enter into joint ventures or agreements with other firms; with the idea that ultimately they would be able to pass on these benefits to final consumers in the form of reduced prices, more product choice etc.

As discussed previously, the concept of efficiency is better received by the EU. Nevertheless, the firms still have to show that the joint venture will contribute more to efficiency than to anti-competitiveness. Possible efficiency gains, such as price reduction, are balanced with the indispensable anti-competitive effects and only if the efficiency gains are larger than the anti-competitive effects, will the agreement will be compatible with EU law. Measuring efficiency gains is therefore crucial.

The problem with measuring efficiencies is that there are a possibly a large number of them, some of them uncertain and some that could have not have been foreseen. Some of the efficiencies that can be identified are, (a) within-firm efficiency gains, or cost efficiencies, such as those that arise due to a more efficient use of resources - like economies of scale and scope, better bargaining power and duplication avoidance, (b) between-firm efficiency gains, such as those that arise due to more efficient transactions between the firms who are parties to the agreement, such as avoidance of free riding, holds up and double margins, and (c) innovative benefits, or dynamic gains, which arise if an agreement increases the capability of firms in bringing out new and improved products or using less costly production techniques.

While some of these gains can be identified, it might not be possible to quantify all them. Further, all these efficiencies do not arise immediately. For example, while within firm efficiency gains can mostly be precisely estimated and materialize within a short time period, innovation benefits applies mostly in the long run and are not easy to quantify.

In spite of the potential constraints in identifying and measuring efficient gains, there are some efficiency tests that are used to quantify these gains. The following section details some of the efficiency gains tests.

### Measuring Efficiency Gains

The four most common techniques for measuring within-firm efficiencies are engineering studies, regression analysis, DEA analysis, and event studies.

- a) Engineering studies show how costs vary with production volume and other relevant production variables. This provides information about efficiency gains associated with economies of scale. Engineering studies also measure the size of economy of scope by calculating the incremental cost, or the cost of additional investment or production. If incremental costs are small, there is large scope for efficiencies using the existing facilities itself.
- b) Regression analysis, which is an econometric technique, could be used to estimate the production or cost function for the relevant industry of the combining firms. Computing the average production function for all firms and then comparing a firm's production to the industrial average, enable us to check whether a large production volume tends to lead to lower unit costs or if firms with certain characteristics are more efficient than the industry average.
- c) Data Envelopment Analysis (*DEA*) is a tool that can be used to conduct benchmark analysis. It uses mathematical programming techniques to estimate the relative efficiency of different firms, such as technical efficiency, *i.e.*, how to optimize production in order to achieve a given output at lowest costs and the scale efficiency (economies of scale).



- d) Event study is an empirical method based on a study of the prices of an asset prior to and directly following a specific event, like the announcement of a merger or an agreement. The difference in valuation before and after event is interpreted as the efficiency gain (or cost) associated to the event. Event studies are based on the theory that, given rationality in the marketplace, effects of an event will be reflected in share prices.

There are no standardized tools for assessing between-firm efficiencies because the economic effects are very diverse. There are, however, a number of useful techniques such as investment calculation, market simulation and regression analysis in use. For example,

- An investment calculation is used to assess the size of the efficiency where there is presence of the free-rider and hold up problem, and is based on investment specific information such as investment costs, investment period, value of the assets, rates and annual cash flow etc.
- Merger simulation models predict post-merger prices based on information about a set of premerger market conditions and certain assumptions about the behavior of the firms in the relevant market.

#### ***4. Constraints in Applying Efficiency Tests***

In the 1960s, in the US the firm was viewed as a production function and, therefore, the analysis of business practices for competition law purposes was based on this view. It is now recognized that business practices cannot be viewed narrowly as attempts to monopolize and build entry barriers, but the efficiencies that firms seek to derive from complex contractual arrangements have to be probed into. This, however, requires the economist to have a holistic view of the way business is conducted in an industry and the reasons behind the contracts that market players enter into. Therefore, a mere understanding of economic theory and principles is not sufficient.

In some cases quantification of efficiencies might not be possible. Therefore one has to be able to determine if the qualitative arguments supporting efficiencies are in fact valid. For instance, efficiency gains from innovation are the most difficult ones to quantify, as there is a high level of

uncertainty involved in the process. In practice, when an agreement gives rise to efficiency gains from innovation, firms focus on providing qualitative arguments that the agreement will result in new products or processes. Examining the validity of these claims is a challenging exercise.

Most of the efficiency tests detailed above are highly data intensive. The results of these tests therefore are highly dependent on the type and quality of data used. Also, in a regression analysis, the number of observations and frequency of observations have a significant bearing on the result. The data requirements are also determined on a case by case basis. Data is more easily available in the US and EU regions than will likely be the case in India, as there are centralized agencies collecting them. Also, firms are mandated to maintain proper financial and accounting records. In India, there are multiple agencies collecting data, and therefore collecting the relevant data would be resource consuming. Also, the data may be outdated. Similarly, it might be required to estimate marginal costs of a firm using cost functions. This requires a good understating of the cost structure of the firm.

#### **IV. CONCLUSION**

Joint ventures under the Competition Act are a “grey area” of the law, and in the absence of any guidance from the CCI, it remains a challenge to address this, often the most common mode of doing business in emerging economies which are seeing inward flow of investment. In certain arrangements between actual or potential competitors, it will be important under Section 3(3) of the Competition Act to examine whether the arrangement can benefit from being classified as a joint venture in the first place and then assess whether such joint venture increases efficiencies where use of competition economics will become critical. However, as a practical matter, in the absence of any benchmark assessing whether or not a joint venture increases efficiency and so falls outside Section 3 of the Competition Act, would pose a formidable challenge for lawyers and economists equally.

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