The Link between Anti-Trust and Finance: A Suggestion for Relative Valuation

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Abstract

The two most common valuation methodologies include Discounted Cash Flows, and Relative Valuation. In relative valuation, the objective is to value as sets, based upon current market pricing of similar assets. The starting point of relative valuation is to select similar firms in which to value the firm in question agents. At the relative valuation traditional approach (RVTA), analyst tries to look at similar sectors, products, geography, firm size, technology and customer behaviour. The idea is to gather as many identical firms as possible. Although it is commonly used and easy to apply, there are many criticism of the RVTA. We think that the anti-trust market definition analysis can be used as a complement any tool for the relative valuation method. RVTA uses some concepts such as similar sector, product, geography, firm size, technology, customer behavior and the anti-trust market definition analysis take care this concept in a different manner.

Key Words: Valuation, relative valuation, comparable firms, anti-trust, market definition

JEL Classification: G32

1. Introduction

There are numerous ways to value a company. While determining the value of a company, several basic analytical tools are used by the financial analysts. The two most common valuation methodologies are namely the (1) discounted cash flows, and (2) relative valuation (valuation based on multiples). In a discounted cash flow valuation method, the objective is to value an asset through its cash flow, growth and risk characteristics. In relative valuation method, however, the objective is to value assets, based upon current market price of similar assets.

Relative valuation is one of the most commonly used asset valuation methods by comparing of similar firms. As a result of use by real data during the analysis, it is considered that market price is obtained by relative valuation. A prominent feature of relative valuation is its ease of application and comprehensibility. However, this method involves some shortcomings that are related not only the theory of the method but also its application. Relative valuation does not take into account some fundamental variables such as risk, growth and cash flows and not have obvious assumptions. While all these mentioned problems are related to theory, issues such as poorly selected comparable firms, and financial multiples and financial data are all linked to the practical usage of the method. Consequently, one can easily argue that correct design requires the proper application of the valuation method.

The starting point regarding relative valuation method is to select similar firms from the firm in question agents. In that sense, if there are no comparable firms, it is impossible to use the relative valuation method.

But then one needs to answer questions on what comparable firm is; how we can find it and whether competitors can be used as comparable firms. To this end, in the relative valuation traditional approach, analysts try to look at similar sectors, products, geography, firm size, technology and customer behavior. However, an important point is correctly determining comparable firms because every incorrect comparable firm directly affects the result on inflated/deflated average. So, the idea is to gather as many identical firms as possible. Although it is commonly used and easily applicable, there are many criticism of the relative valuation traditional approach. This paper is of the opinion that the antitrust market definition analysis can be used as a complementary tool for the traditional relative valuation method. While the traditional relative valuation approach uses concepts such as similar sector, product, geography, firm size, technology, customer behavior, the antitrust market definition analysis also uses these concepts but handles them from a different perspective.

So, at this point this paper would like to answer the following questions: what are the similarities and common points between comparable firms and antitrust market definition analysis? At which point do they differ? How can market definition analysis help relative valuation method? Is it possible to use the market definition process wholly or partially in comparable firm analysis? This paper argues that the market definition of antitrust law/legislation can be used as a complementary tool for relative valuation. In the second section of the paper the relative valuation and comparable firms concepts are briefly defined. Antitrust market definition techniques, the link between antitrust, and relative valuation analysis are examined in the third section.

2. Determination of Comparable Firms at Relative Valuation

Relative valuation is a significant concept in finance and investment decision making. Its importance appears in daytoday investment activities, where gaps or spreads in yields, interest rates and other rates of growth are generally exploited. The main advantage of relative valuation over other valuation techniques is that it allows unbiased comparisons. Therefore, in this context, relative valuation eliminates the need for an absolute measure, which is arguably, an impossible feat to achieve (Cohen 2000, 1).

Relative valuation is one of the most popular techniques of valuing an asset because, it requires fewer assumptions andallows for quick estimationswhen compared todiscounted cash flow analysis. Secondly, understanding and presenting the model is simple and easy than the latter method. Finally, in situations where market valuations are unavailable, either because of privately held share capital or because the proposed publicly traded entity has not yet been created like in case of spinoffs, relative valuation is the only solution to determine value in such cases (Sehgal and Pandey 2010, 90).

The value of a company is determined at relative valuation by analyzing the pricing of 'comparable' companies relative to a common variable such as earnings, cash flows, book value or sales. Relative valuation depends on the multiples comparisons with generally other similar or comparable companies in the same sector. A target company is valued using this valuation methodology based on the operating multiples and financial ratios of its industry peer group. Simply, an analyst compares a company’s multiples to that of its peer group and determine if it is over or under valued in the market. Relative valuation is an attractive methodology because the idea makes some intuitive sense – why should we pay more for every dollar earned by company A, compared with company B? (Jindal 2011, 74).

In that sense, there are two components to relative valuation. The first is that assets are valued on a relative basis meaningprices have to be standardised, usually by converting prices into multiples of corporate fundamentals. The second is to find identical firms, which is difficult to do, as no two firms are twins and firms in the same business can still differ in terms of risk, growth potential and cash flows (Sehgal and Pandey 2010, 90). Thus, which companies are truly comparable? There are numerous literature published on the shortcomings of using comparable company multiples to find the value or price of a particular business. The basic idea is that no two businesses are exactly alike in terms of size, product mix, markets served, and so on, and it usually is not possible to compare for these things in a meaningful way (Johnson 2001, 2).

So, a determination of comparable firms is far away the most critical issue of relative valuation. As seen from Table 1, Home Depot and one of its major competitors Lowe’s, have identical financial ratios. Their price to earning (P/E) ratios differed by only 8 percent, and their enterprise-value-to-EBITDA (earnings before interest, taxes, depreciation, and amortization) ratios differed by only 3 percent.

But this similarity doesn't extend to a larger set of hard-lines retailers, whose enterprise multiples vary from 4.4 to 9.9. Then one can easily ask why there exits such a wide range (Goedhart et al 2005, 8).

In that sense, it should be concluded that, when we value Home Depot by relative valuation, one should take into consideration just Lowe's or whole home furnishing and consumer electronics firms in comparable firms sample.

It seems that, many criteria are used to determine comparable firms in practice. These mostly used criteria are the "same industry membership or same operation fields" and "producing similar or competing products". It appears that, many prefer different criteria. Although there is no accepted differentiation in the literature, this paper prefers to classify this approach as traditional and alternative for readers to follow the article easily. These approaches can be accepted as supplementary rather than competitor. In this article, the traditional approach is called first step and alternative approach is called second step.

2.1. The First Step: Traditional Approach

Analysts have to study the target company in depth for determining appropriate comparable companies. The study starts by looking at the company website. To understand the company, annual reports, quarterly reports, investor presentations and research reports are checked out to obtain the necessary business and financial information. For valuation, analysts have to understand initially the business of the company and then identify its peers (Jindal 2011, 75).It is always important to keep in mind that there is no twin firm to"a firm that is perfectly identical to the one that you value" (Larsen 2008, 324- 325).

"The sector/industry in which the target company operates", "products and services offered by the company", "geographical concentration", "size of the company (revenues and market cap)" are key characteristics of the target company that is looked upon while comparing the companies for right set of peers (Jindal 2011, 75). In that sense, "industry classification, technology, clientele, and size" are the most used criteria for the selection of comparable firms (Larsen 2008, 324- 325).

- Same industry membership/similar-rival product criteria

What is a comparable firm? Although it is not always the correct or the best way to identify comparable firms, the traditional practice is to take a look at firms within the same industry or business (Damodaran 2001, 15). Selection of a universe of comparable companies for the target company is the starting point for performing a relative valuation. In that sense, the analyst has to acknowledge the target company in order to identify the companies with similar and financial characteristics. According to this traditional view; a telecom company shall not be compared with a technology company and moreover the companies should be in same sub-industry/sector. "The catch here is that companies have to be in same sector"(Jindal 2011, 75).

Although most financial analysts start their analysis by checking the industries where a company is active in, they are often loosely defined. One way is looking at annual report because the company might list its competitors in its annual report. An alternative is to use the industry classification standards such as the Standard Industrial Classification codes published by the US government or the Global Industry Classification Standard (GICS) recently developed by Morgan Stanley Capital International and Standard & Poor's (Goedhart et al 2005, 9; Koller et al. 2005, 367).

Thus, another way is examining firms that produce or trade the same goods or services that the valued firm does. In that sense, the same product characteristics should be taken into consideration. For example, although both weekly magazines and daily newspapers can be classified into print media, separating of multiples for weekly and daily publications can be more accurate than by pooling both industry segments together (Larsen 2008, 324). Dell and Microsoft, though are in same industry (technology), cannot be compared because they produce different set of products and services. Dell is more into hardware while Microsoft is more into software business (Jindal 2011, 75).

- Similar production process/ technology

Firms are producing the same good or providing the same service in a different way. However, analysts try to select only those firms that employ the same technology as the firm being valued. For example, although transportation services are provided by both railroad companies and trucking companies, it is difficult to compare the multiples of railroads to those of truckers because of differences in the cost structure (Larsen 2008, 324).

- Similar demand structure /geographical concentration

Firms in the same industries may focus on different consumers. Consumer differences may come from many sources such as deliberate strategic choice (e.g., the merchandise selection of a retailer depends on its positioning in the market), a matter of location (e.g., the location of a public utility), or any other physical constraint. Since it could be argued that, different consumers imply differences in product quality, markups, and so on, matching consumer is important to try to match clienteles in selecting comparable firms (Larsen 2008, 325). Different countries have different characteristics in terms of macroeconomic environment, demographics, rules and regulations, and consumers buying behavior, etc. So, in selecting comparable firms, the firms in the same geographical area/country are first taken into consideration before analyzing the international peers. In that sense, an analyst seeking peers for a UK retailer would focus primarily on UK companies with relevant foreign companies providing peripheral guidance. For example, Tesco, the retail giant of UK, will be first compared with Sainsbury, Morrison's of UK, as these are the national peers. Comparison with Wal-Mart of USA or Carrefour of France will be done later on (Jindal 2011, 75).

- Firm size/ firm capacity

Production capacity and sales volume are another important factor taken into consideration. In that sense, an analyst selects from the sample of comparable firms only those that sell about the same number of units. For example, when a hotel chain is valued, it makes more sense to compare the Hilton to the Marriott, each of which has about 100,000 rooms, than to compare either company to La Quinta, which has fewer than 20,000 rooms(Larsen 2008, 325).

For comparison purposes, an analyst tries to find approximate same size of firms because comparison of a USD 15 million revenues company may not give much sense when compared with USD 10 billion company. Such a comparison as comparing a new firm, ARC Financial Services - a startup investment bank, with matured firm, Goldman Sachs - one of the oldest investment banks. Differences in size may result in a totally different valuation. In that sense, analysts can classify the peers on the basis of size such as companies with sales of up to USD1 billion in Group C, USD1 billion to USD5 billion in Group B and those with above USD 5 billion in Group A (Jindal 2011, 75).

2.2. The Second Step: Alternative Approach

There are alternatives to the traditional application of determining comparable firms. One is to search firms that are similar in terms of valuation fundamentals. For instance, to study the value of a firm with a beta of 1.2, an expected growth rate in earnings per share of 20% and a return on equity of 40%, an analyst would find other companies across the entire market with similar characteristics. Another alternative is to accept all firms in the market as comparable firms and to check for differences on the fundamentals across these firms by using statistical techniques such as multiple regressions (Damodaran 2001, 16).

With an initial list of comparable firms in hand, the real search begins. An analyst must control each company on the list in order to answer some important questions: “why are the multiples different across the peer group? Do certain companies in it have superior products, better access to customers, recurring revenues, or economies of scale?”. In that sense, an analyst must become an expert on the operating and financial features of each of the companies: “what products they sell, how they generate revenue and profits, and how they grow” (Goedhart et al 2005, 9; Koller et al. 2005, 367). Investors have different views about each company’s ability to create value going forward, so not every same industry’s firm is truly comparable. To decide the right companies, analysts have to match those with similar expectations for “growth and ROIC[1]” (Goedhart et al 2005, 8). Because the conventional ratios, such as return on assets and return on equity, mix the effects of operations and capital structure, “ROIC, growth, and free cash flow” measure correctly operating performance of companies (Koller et al. 2005, 371). If firms’ strategic advantages translate into superior ROICs and growth rates, the firms that have an edge within an industry will trade at higher multiples (Goedhart et al 2005, 9; Koller et al. 2005, 367). Rather than enterprise value maultiples, price-earnings multiples mix expectations about operating performance, capital structure, and nonoperating items (Koller et al. 2005, 371).

[1]A company’s value depends on its return on invested capital (ROIC) and its ability to grow. ROIC can be defined as NOPLAT/ Invested Capital. NOPLAT (Net Operating Profits Less Adjusted Taxes) represents the profits generated from the company’s core operations after subtracting the income taxes related to the core operations (Koller et al. 2005, 133).

Finance theory asserts that all else being equal, the assets equivalent risk should be priced the same.The key idea here is that comparable firms are "assumed" to get equivalent risk (Larsen 2008, 323). "In many valuations with multiples, only the market price of the equity is included in the computation of average multiples. Yet leverage affects the risk of shareholders and consequently the relation between market prices and the performance measure that is used for scaling these prices. For example, all other things being equal, the P/E ratio of a firm with high leverage should be lower (because its equity is riskier) than the P/E ratio of an otherwise similar firm with low leverage. Thus unless you deal with leverage differences using whole-firm multiples, match the leverage of the comparable firms to the leverage of the firm being valued" (Larsen 2008, 325).In that sense, as well as "cash flow, growth and ROIC", "risk" is another important factor taken into comparable firms selection.

According to the Franco Modigliani ve Merton Miller with whom modern capital structure theories begun with their 1958 study, a firm value depends on firms earning power and enterprise risk. In other words, a firm value is computed by firms equity revenues (Brigham 1995, 468). In this theory, companies can be classified in different risk group in terms of their riskness. Firms, in the the same risk group, have equal net operating revenues have equal capital cost and equal enterprise value. It is not possible for firms, in the same risk group, to increase their enterprise value by changing capital structure to compare equal net operating revenues.

Consequently, it can be argued that, a comparable firm is one with cash flows, growth potential, and risk similar to the firm being valued. It would be ideal if an analyst could value a firm by searching how an exactly identical firm - in terms of risk, growth and cash flows - is priced. This definition does not include a component that relates to the industry or sector to which a firm belongs. So, a software firm can be compared to a telecommunications firm, if the two are identical in terms of cash flows, growth and risk. In traditional analyses, however, analysts determine comparable firms to look at firm's business or businesses. If there are enough firms in the industry to allow for it, this list is shorten further using other criteria; for instance, only firms of similar size may be taken into consideration. The implicit assumption being made here is that firms in the same sector have similar risk, growth, and cash flow profiles and therefore can be compared with much more legitimacy (Damodaran 2001, 15).

3. A Suggestion: Use of Antitrust Market Definition Analysis for Determination of Comparable Firms

As seen above, although the industry membership rule is the standard approach and most commonly used method in practice, the empirical research identified methods that generally results in higher accuracies than that of the industry membership method. These methods are based on control factors for growth, risk and profitability. These alternatives methods are much more difficult to apply and also require some assumptions which are not quickly estimated (Minjina 2009, 35). A prominent feature of relative valuation is ease of application and comprehensibility. And the first step of that analysis is the determination of comparable firms. Although there are alternatives of traditional analysis, they are difficult to apply. In this article, we suggest a new tool, antitrust market definition analysis, that can be used as a complement to the traditional approach.

Antitrust (competition) law emerges to "protect the process of competition in a free market economy". It asserts that supply and demand conditions design "the allocation of resources" in the economy without any governmental intervention. It could be argued that, competition between undertakings cause "efficiency, low prices and innovations." In this respect the final goal of competition rules is to enhance "effective and undistorted competition" in the economy as a whole (Jones and Sufrin 2001, 3). Antitrust law maintains competition in the markets through three types of efficiencies: allocative, productive and dynamic efficiencies. Allocative efficiency is achieved under the perfect competition where the price of goods and services is equal to an amount which customers want to pay marginal cost of products. Because of price equality cost, productive efficiency is also achieved under the perfect competitive environment. Lowest possible cost is one of the main tools of firms to compete with other undertakings. Competition lets producers decrease their costs to stay in the market and gain more market shares. Another advantage of competition is to trigger innovation and new products which is known as dynamic efficiency (Whish 2001, 3-4).

Generally competition law consists of three main tools shortly referred as anti-cartel, anti-monopoly and merger/acquisition legislation. Anti-cartel legislation prohibits all agreements between undertakings, decisions by associations of undertakings and concerted practices which have as their object or effect the prevention, restriction or distortion of competition. Anti-monopoly legislation states that any abuse by one or more undertakings of dominant position shall be prohibited.

As a merger legislation, EC Merger Regulation sets out that "a concentration which would significantly impede effective competition in the common market or in substantial part of it, in particular as a result of the creation or strengthening of a dominant position, shall be declared incompatible with the Common Market" and prohibited.

Antitrust authorities generally carry out competition analysis in two steps: definition of the relevant market and determination of competitive conditions within this market (OECD 2012, 7).Traditionally, definition of the relevant market, the identification of significant competitors, the computation and assignment of market shares are the first step in every antitrust analysis. Market definition considers more or less at industries with homogeneous products. Rivals producing close substitutes press strong competitive constraints upon each other (OECD 2012, 3). But then one can question where the process of market definition should begin."Demand substitution, supply substitution and market entry" are three sources of competitive constraints to prevent price increase (OECD 2012, 13).The U.S. courts have long decided that markets should be defined with respect to the economic force of demand (buyer) substitution. Accordingly, courts consider the buyer's view of which products or geographic locations would be acceptable alternatives (Baker 2007, 132).

Similar to the U.S. examples, according to the European Commission Notice on the Definition of the Relevant Market, "demand substitution constitutes the most immediate and effective disciplinary force on the suppliers of a given product, in particular in relation to their pricing decisions. It comprises all the various ways buyers can react to a price increase which depends *inter alia* on the availability and closeness of substitutes, possible geographic substitution, and transport cost. All kinds of demand substitution are summarized by the elasticity of the market demand function which is explicitly taken into account by the hypothetical monopolist test" (OECD 2012, 13).

Since the mid-1970s, some U.S. courts have also explained market definition to consider second economic force, supply substitution (Baker 2007, 134). A single firm's demand function depends on both the demand behavior of the consumers and on the supply behavior of other firms producing substitutes or complements to products of the firm in question. A price increase by the firm will lead to not only a change in buyer behavior but also a change in suppliers behavior. While consumers will look for substitute away from the product by either buying less of the product, choosing a substitute, buying in a different area or buying something completely different or nothing at all. On the other hand, competitors could increase their supply of the product (or a substitute) if sufficient production capacities are available, reposition their products, expand their capacities or new entry could take place (OECD 2012, 7).

The current U.S. Horizontal Merger Guidelines defines a market "as a collection of products or services, and a geographic region, that would form a valuable monopoly". The candidate (provisional) market is too small and must be expanded if it would be unprofitable for a hypothetical monopolist of a group of products within a region to raise price by a small but significant and non-transitory increase in prices (SSNIP) because buyers would substitute to other products or locations. The Merger Guidelines assert that the candidate market must be enlarged to include products or locations to which the most buyer substitution would occur, and the hypothetical monopolist question then be asked again (Baker 2007, 133). This hypothetical monopolist test[2] defines the smallest set of products, including some main product of interest that can jointly profit from a non-marginal, typically 5 percent, increase in price(s). The test iteratively widens the questioned market by the main product's closest substitute. The relevant market is defined when substitution to products outside the set is sufficiently weak to permit a collectively profitable price increase for all of the included products. The purpose of market definition is to prove competitive constraints (Daljord et al. 2007, 263).

Baker (2007) gave an example related with the Coca-Cola investigating by antitrust authority to analyse the competitive effects of its conduct.

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[2]By the end of the 1980's, the hypothetical monopolist test had been formalized with a break-even critical loss analysis. The critical loss test evaluates the relative reduction in quantity after a given relative price increase on all of the products in the candidate set such that their joint profits remain unchanged. The critical loss explains a profitability threshold to compare with the actual relative quantity reduction of the candidate set of products after the price increase. (Daljord et al. 2007, 266). If the predicted actual loss is less than the critical loss, then the group of products (firms) under investigation constitutes an antitrust market, while if the predicted actual loss is greater than the critical loss, the market is rejected and the test must be repeated with a larger group of products (Coate and Simons 2011, 8).

In this process, firstly the product market must be defined to prove whether it has a dominant position or firm acquiring another firm, is accused of harming competition by excluding some rivals, or has introduced a practice on its own or by agreement with other firms said to facilitate coordination among rivals. Among other products;

- Coca-Cola sells regular Coca-Cola (a cola-flavored soft drink), Diet Coke (sugar-free), caffeine-free Coca-Cola, caffeine-free Diet Coke, Sprite (a lemon-lime flavored soft drink), and Dasani (bottled water).
- Moreover, these products are sold in a variety of package types, including bottles and cans in a range of sizes.

Principal, analysts specify each finely distinguished product-for example, caffeine-free Diet Coke in 12 oz. cans-as a candidate market to start the analysis with a large number of candidate markets. If caffeine-free Diet Coke in 12 oz. cans are not a market, the candidate market would be enlarged to the next best substitute-perhaps caffeine-free Diet Coke in bottles, perhaps caffeine-free Coca-Cola, perhaps Diet Coke (caffeinated), or perhaps caffeine-free Diet Pepsi (sold by a competitor) -and the hypothetical monopolist test is repeated. In practice, market definition would likely begin with a larger aggregate-all colas, all soft drinks, or all beverages, for example. “If disaggregated information about buyer substitution patterns is available and the outcome turns on the starting point, a more finely defined product might be an appropriate place to begin the analysis. But itwould almost never be appropriate to begin by disaggregating more narrowly than the specific products that are purchased by the buyers alleged to have been harmed by the conduct under review”[3](Baker 2007, 145-146).

Consequently, market definition is often the most critical step in the antitrust analysis to establish market power and determine whether business conduct has or likely will have anticompetitive effects. As seenin the above example, a market is a collection of *products and geographic locations*, aimed at making inferences about market power and anticompetitive effect. A market defined for this purpose is often termed a "relevant market" or an "antitrust market" in order to distinguish these markets from what business executives and consultants might define for other purposes. However, the final result of the process of market definition-a collection of products and geographic locations-is used to find the firms that participate in the market (Baker 2007, 129- 130). In other words, the definition of the relevant market helps to identify the market participants, to delineate the boundaries of the market and to determine the area of effective competition (OECD 2012, 3).

When analysts compare prices of other firms to the target company, they should use data of firms that are as similar as possible to the firm that we value. If they specify too stringent criteria for similarity, they will end up with too few firms to compare. With a small number of comparable firms, the average multiples is affected by the idiosyncrasies of individual firms too much so that the average multiple is no longer a representative multiple. To select the sample of comparable firms, an analyst has to balance these two conflicting considerations. “The idea is to obtain as large a sample as possible so that the idiosyncrasies of a single firm do not affect the valuation by much, yet not to choose so large a sample that the comparable firms are not comparable to the one that you value” (Larsen 2008, 323).

What are the similarities and common points between comparable firms and anti-trust market definition analysis? At which point are they different? How can market definition analysis help relative valuation method? It is possible to use market definition process wholly or partly in comparable firms analysis?

As seen from the Table 2,while relative valuation traditional approach is shaped by; “sector/ industry, product/service, geography, firm size, technology and costumer”, relative valuation alternative approach is shaped by “risk, cash flow, ROIC and growth rate”. It could be argued that, the former one is accepted as economic criteria and the later one is accepted as financial criteria. However, anti-trust market definition criteria are wholly economic and cover all the relative valuation traditional approach criteria. While the product/service, geography and customer are closely related with the “demand substitution”, the other sector/industry, firm size and technology are closely related with the “supply substitution”.

In relative valuation traditional approach, analysts try to find firms which are similar a firm being valued. And analyses is started from the rival company. But who are rival company?

[3]The relevant market would include the smallest group of products that would satisfy the definition. A market defined in this way focused on the concern of merger lawbut differed from the classical definition of an economic market (Lopatka 2011, 75).

In that point, anti-trust market definition can be very useful tool for the valuation process. Because, aims of the market definition is not only to limit market boundaries but also define the competitors. While the relative valuation analysts use some technique to find rival company such as web sites, operation reports, statistical classifications and so on anti-trust analysts use hypothetical monopolist test which is beyond the sensibility.

In fact, it could be argued that all of these market participants determined by market definition are the real competitors of the firm valued. We know from the strategic management approach that the firm must take strategic position according to its competitors. In that sense, it is very critical for a firm to compare itself firstly its rival. We think that, this argument is valid for valuation process especially for relative measurement. While the relative valuation traditional approach put forward some concept such as; "similar industry, product, technology, firms size, customer relation and geography" to determine comparable firm analysis, anti-trust analysts conduct market definition with similar concepts but in a different ways.

As seen from the Table 2 and Table 3, there are huge similarities between relative valuation traditional approach and anti-trust market definition logics. In that sense, market definition analysis can be used as complementary tool for relative valuation traditional approach.

4. Conclusion

Relative valuation is one of most commonly used asset valuation methods by comparing of similar firms. As a result of use by real data, it is thought that market price is obtained by relative valuation. Ease of comprehension and applicability are primary reasons for its common adoption.

The starting point of relative valuation is to find similar firms to compare valued firm. If there is no comparable firm at hand/in the market, it is not possible to carry out the relative valuation method. But then as this paper argues who is the comparable firm? How can we find it? Do competitors can be used as comparable firms?

There are mainly two methods used for determination of comparable firms in this analysis. The first one is traditional approach and the second one is alternative approach. While traditional relative valuation approach is shaped by; "sector/ industry, product/service, geography, firm size, technology and costumer", alternative relative valuation approach is shaped by "risk, cash flow, ROIC and growth rate". It could be argued that the former one is accepted as economic criteria and the later one is accepted as financial criteria.

In fact alternative approach results do have higher accuracies than traditional methods. However, the alternative methods are much more difficult to apply and also require assumptions which are not quick estimate. We know from the literature that a prominent feature of relative valuation is its ease of application and comprehensibility. In that sense, this paper suggests a new tool that can be used as complementary to the traditional approach. Antitrust market definition criteria is wholly economic and covers all the relative valuation traditional approach criteria. While the product/service, geography and customer are closely related with the "demand substitution", the other sector/industry, firm size and technology are closely related with the "supply substitution".

Table 1. Comparing Multiples

	Stock Price ($) (23 July 2004)	**Market Capitalization (million $)**	**Earnings Per Share ($) (EPS)**		**Forward Looking Multiples (2005)**	
Home Improvement			**2004**	**2005**	**EBITDA**	**P/E**
Home Depot	33.00	74,250	2.18	2.48	7.1	13.3
Lowe's	48.39	39,075	2.86	3.36	7.3	14.4
Home Furnishing						
BedBath&Beyond	34.89	10,697	1.58	1.83	9.9	19.1
Linens Things	25.86	1,152	1.86	2.13	5.1	12.1
Consumer Electronics						
Best Buy	47.11	15,537	2.88	3.41	6.3	13.8
Circuit C.S.	13.58	2,708	0.55	0.61	4.4	22.3

Source: Goedhart et al (2005, 8)

Table 2. Main Components of Compared Methods

Relative Valuation Traditional Approach	Relative Valuation Alternative Approach	Anti-trust Market Definition Process
- Sector / industry - Product / service - Geography - Firm size - Technology - Customer	- Risk - Cash Flow - ROIC - Growth rate	- Demand substitution - Supply substitution - Market entry

Table 3. Comparing Methods

	Relative Valuation Traditional Approach Criteria	Relative Valuation Alternative Approach Criteria	Anti-trust Market Definition Process Criteria
Criteria	Economic	Financial	Economic
Test tool	Operation report, web sites, statistical classifications etc.	Financial tables, Forecasting analysis	Hypothetical monopolist test
Starting point	Similar firms	Financial forecasting	Similar products/services

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