Determining Values of Product and Company Brands in Input Output Framework As Outcomes of Intellectual Property Rights

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Abstract

The globalized Indian economy now conforms to WTO's laws of protection of intellectual property rights, though the economy faces greatly intensified price and non price competition. Patents make imitation and reverse engineering difficult.

IPRs are used for *protecting, projecting, propagating and positioning of brand image of companies and their products. Branding facilitates the acquiring and subsequent maintaining of market share, and/or acquisition or retaining of leadership* in oligopolistic markets. This paper analyzes and integrates *brand positioning and brand valuation, associated with IPRs,* in input output framework.

This study distinguishes the concepts of product and company brands. Economic Value Added, (EVA) and Residual Value Added, net of pure profits, (RVA) are hypothesized to *determine economic value of 'Product and Company Brands'.* Value of both product and company brands vary sharply between sectors, though most sectors show low values of brands. But low values dominate company brand more than the product brand. *Value of product brand is a decisive determinant of the value of company/sector brand.* Input output table of Indian Economy for 1994 has been used as the data base.

Context

Determined efforts of IMF and World Bank and political leaders of US and Western Europe in early eighties led to an *intensification of Globalization and Liberalization to encompass the socialist and developing countries under capitalism.* India, with other 50 countries of the world, also opted for economic reforms in early nineties of the last century. The reforms led to the replacement of i) R*egulatory and Controlling by the market based system,* and ii) *public by private initiatives and enterprise.* These changes brought the *freedom of choice in economic affairs through the removal of fetters and chains, constraints and limitations that earlier throttled individual decisions and actions. Protection of intellectual property rights under WTO guided policy regime has emerged as an important issue in the third world.*

This study i) links intellectual property rights to patents and corporates' brands, distinguishing between Product and Company Brand; and ii) evaluates the monetary value of these two brands. An input output model has been evolved to estimate sector wise values of Product and Company brands. Data limitations and the objective of capturing both direct and indirect brand effects, forced empirical analysis to focus on sectors rather than companies/ firms.

Interrelations between Public Policy and Organizational Behavior

The changes in policy regime(s) have evoked a variety of responses from individual enterprises, both public and private. Interrelations between Organizational Behaviour and Public Policy embody four layered relationships: i) *Change in Public Policy in response to failure of the market, where market failure reflects the impact of organizational behaviour;* ii) *Responses of Organizations to Change in Public Policy;* iii) *Responses of Managerial and other Cadres of organizations* to the change in a) *organizational structure,* and b) *organizational decisions, new*

modes and mechanisms of their operationalisation; and iv) *Responses of Public Policy to Actual and Emergent Organizational Changes. The Public Policy Change in response to the first round changes in organizational decisions in response to the change in public policy reflect the response of policy makers to organizational changes that the public policy evoked.* Such changes tend to reflect the *experience of policy makers,* gathered from the *implementation of new policy and from primary changes at the organizational level that are evoked by the experience of organizations gained from the operations of new public policy.*

Both Indian and foreign studies have highlighted that *more highly marked responses from organizations have been evoked by changes in Regulatory and Controlling Public Policy Regime than by any other change in policy environment* (For Review of Studies, See Venugopal and Dixit, 1999).

IPRs in Globalizing Economies

In globalized/ globalizing economies, intensification of competition prevails both within and without the national boundaries. Replacement of Regulated and Protected economy by the market based one as a result of Public Policy Change, makes it imperative for enterprises/ corporates to face *the challenge of competition.* Operation *in a competitive in place of protected suppliers' market* makes the organizations face price and non-price competition. *Price competition warrants the cost reduction,* that partly depends upon the nature, extent and direction of organizational restructuring for enhancing efficiency and productivity of operations. Non-price competition require enterprises to *focus more on quality, easy and timely availability of the product to consumers and offer of new designs for currently produced goods, even offer of totally new products,* and/or use of more advance technology, adaptation to the *emerging emphasis on CRM, adherence to supply schedule, etc..* Such changes *require new knowledge; new skills, new organizational structures and new managerial techniques etc.* at organizational levels; *all these flow from R and D, though technology imports and FDI also offer an option.*

New knowledge, skills, designs, *managerial techniques, organizational structures, decision processes, marketing strategies and the like flow as outcomes of innovation(s) from R & D activities/centres to the companies,* making patents and brands flowing from *R&D the pivot of operations in the globalized competitive markets of national economies.*

i)   Funding agencies like Department of Science and Technology, ICSSR, UGC, and AICTE, *outsource their research activities; outcomes of these research projects remain largely in individual domain of researchers.* These institutions *do not put outcomes of research in market place for commercial exploitation.*

ii) Several companies, either having no or low/ inadequate R&D base and institutions like IIM's, IIT's, CSIR, DST and ICAR etc. outsource R&D to others but commercially exploit the outcomes of researches.

iii) Many companies, having their own R&D centres, use the results of research themselves for commercial gains. These are *Schumpeterian innovating companies.*

R&D Outcomes and their Market

There *exists a R&D market to mediate and perform the transactions in knowledge, know-how, skills, and the resultant innovations.* Out sourcing/ sponsoring research *implies purchase and sale of its outcomes at a price.* Market is involved imperceptibly w*hen own* R&D outcomes are used. Self purchase of R&D represents cases *where user and producer coincide and reside in the*

same agent. There is an *imputed price, equaling the cost incurred in R&D.* In such a market, *transactions relate to sale and purchase of outcomes/ output of R&D.*

Types of Innovations

Innovations are of two types: i) Soft, and ii) Hard core. Research in physical and engineering sciences and technology produce *hard core innovations* pertaining to *technology, its carriers and embodiments*, which are subsumed in products, designs, structures, processes, techniques, machines, plants, equipment. These are physical/material and perceptible (Prakash and Sharma, 2004).

Social science research/ engineering produce soft-core innovations, pertaining to *knowledge, know-how, skills, designs, methods of decision making, management techniques,* new *organizational structures, new modes and mechanisms of organizational behaviour and decision making, new methods of marketing, know-how of using skills, operationalisation of core innovations, policy formulation and policy implementation* (Prakash & Sharma, 2003). Such innovations are abstract, and hence, imperceptible, though effects of their *operations may be concretely perceptible.* Soft core innovations are neither patentable nor protectable. *Human resources are the embodiments, and hence, carriers of these innovations.* Human resources may move among organizations and even between countries. There occurs *the movement of human capital and know-how of soft core innovations with migration, just as hard core innovations move with their carriers.*

R&D is assumed to be a single product industry; it is broadly defined as innovation. R&D involves three distinct but hierarchically interrelated activities: *Thinking,* that leads to thought/idea as an output; *Expression* that gives concrete *shape and structure to the contents of thought/idea* through the medium of language, *literary or symbolic or both.* Expression is an intermediate stage for transforming thought into action giving shape and direction for commercial use. *Ideas lead and guide action.* Innovations are an *intermediate stage of transmission of concepts and theories/ laws into practically useful outcomes.* Innovations emerge as new *designs, new or substantially improved products, or processes, or as soft core products.* ***These need protection from imitation and unauthorized use, which is provided by patents and/or branding.***

Intellectual Property Rights As Instruments of Protection

The innovating companies/ firms make substantial investment in i) evolution/ development of ideas and concepts; ii) exploration for transforming ideas and concepts into concrete forms and structures; and iii) translation of these into innovation. Then follows *exploration of possibilities of transformation of innovations/ inventions into commercial prospects, including popularization to create space in the market. The initiators/ propagators/ owners of innovation(s) want to appropriate all the gains accruing from investment of financial, intellectual and material resources in innovations. Intellectual Property Rights legally protect the gains from innovations and prevent unauthorized use by others without payment or compensation to owners.* Owners also seek to prevent spill-over gains percolating to rivals in the market. Patents are one of the most potent instruments of protection of intellectual property.

Valuing Innovations

Whereas an academic researcher undertakes research for enriching knowledge and use the same for teaching and further research, *R&D of companies have a commercial angle.* An academic

researcher's impulse may be the philosopher's impulse: *'knowledge for the sake of knowledge'*. They can engage in fundamental research or an extremely long drawn research process without any visible outcome. But R&D, undertaken by business, is guided by a *doctor's impulse*: *'Knowledge for the sake of healing that knowledge may bring about'*. Economic angle also involves the question whether there is an alternative. If yes, what shall be its cost? How does that cost compare with the cost of alternatives? Undertaking R&D, when a problem is given exogenously, is not very challenging, but *selecting right problems at the right time, posing right questions and finding right answers to the same for exposing commercial potential(s) is much more challenging.* R&D by or for *companies has to face this challenge.* Patents are the instruments and means of delivering economic benefits to innovators through brand building. Patents and brands revolving around them flow just like the Flow and Stock of commodities, money, finance, learning-teaching, health care and other services in the economy. Patents and resultant *brand building, brand positioning* and its *economic value reflect the benefits* companies derive from innovations. **The flows and stocks of patents move through Product Brand and Company Brand in the market**.

R&D outcomes may be valued in stages. *Publication in a book or referred journal; references given by other researchers in their publications; further research by other than the original researcher on the propositions/ theories/ methods enunciated; and finally, commercial exploitation reflect the valuation of innovations in different forms.*

Patents are a practical measure of commercial exploitation of innovations. Patents are used for brand building and brand positioning. Patents establish certain *features and facets of company and its products as exclusive characteristics of the given brand.* Exclusivity lead to the *brand building and its positioning in the market.* This endows **'Brand' with an identity independent of advertising. Lazarus, CEO of M&O, has also hinted at this emerging transformation of the concept of brand:** 'There was a time' when the terms 'Advertising and Branding' were used 'interchangeably'. Today *'the brand has to impact everything, inform every decision within a company,'* since *'brand drives the value of the enterprise'* (HT, 7th Feb., 2005). I hypothesize that **'Value of the Product Brand' in commodity market and Value of 'Company Brand' in capital market are the main determinants of the overall value of an enterprise.** Branding has, therefore, to be much more broad based conceptually and more widely spread practically. Product and Company Brand positioning reflects the economic value of innovation/ patents.

The company has to get the benefit as economic value of its innovation by commercial exploitation. Value of the brand represents economic benefits, as distinct from such non economic benefits of R&D as enrichment of knowledge, its utilization for learning-teaching and further research. Even good-will has both an opportunity cost and economic value. Brand positioning in the market may be conceived to be *the carrier of good-will.*

It is hypothesized that Patents, as manifestation of *IPRs, and associated brand are an instrument of monopolization and oligopolisation, offering exclusion of unauthorized use or diffusion of spill-over effects of innovation.* Spill-over effects *exist if such gains from a) innovation as increased consumers' acceptability of products, b) enhanced efficiency or productivity, c) market penetration, d) enlargement of market share etc. are appropriated by non-owner without payment for its access or particular use.* For example, if development of high yield variety has led to marked increase in output of banana and *some buyer uses it for production rather than consumption,* use for which he has neither taken permission for nor has he paid for the innovation, *it shall represent spillover effect.* The spill-over effects are, therefore, distinguished

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by *the utilization of innovation or its outcome for productive use, as distinguished from consumption use by those who are not the owners of innovation* (Cf. Meijl & Tongren, 1999).

Sector as Representative of Companies

The brand positioning, embodiment of patents and their values, needs systematic presentation in a *macro framework* with a view to make it amenable to analysis of its *impact on the economy as a whole,* as *distinguished from micro effect on corporates.* **The mini macro impact of sectoral brand positioning shall embody the average benefits accruing to firms/companies within an industry/sector.** It is assumed that each sector/industry *competes with other sectors for income of users in the market place just as the firms/companies within industry* compete with each other in a given commodity market. The outcome of this competition manifests *in differential pace and level of sectoral growth.* Such concepts as Key/Leading, FMCG, Stagnant and Decaying/Declining Sectors of *the economy relate to the impact of differential sectoral branding and its market positioning.* The branding also explains differential sectoral effects of such *economy wide phenomena as recession, inflation, low/slow or rapid* sectoral growth. Values of brand of an industry/ sector, the conglomerate of companies/ firms, *manifest aggregate/ average of values of the brands of individual companies.* The *estimation of both direct and indirect effect of average sectoral brand requires an analysis of the degree and direction of interrelationship(s) among the variables falling within their own or their proxies' domain.* This concept of sector is an ***inversion of the Marshallian concept of 'Representative Firm;*** representative firm, in ***Marshall's conceptualization, represents industry average. Here industry's average brand value represents the average brand values of firms.***

Patents and associated brands serve commercial goal through triple complementary routes: a) *power of monopolization/ oligopolisation of the right of use of patent and brand associated with it; b) preventing others from using the same to make the brand exclusive*; and c) *enabling the inniators and originators of patents to use them for branding and advantageously positioning the company and its products in the market.* Products refer both to goods/ services, stocks and credit. For clarity, Product Brand in this study relates to *Commodity Branding and Company Brand reflects the branding of instruments of finance.* Financial gains of patents may, therefore, be estimated by the determination of value of brand for the concerned company. Input output modeling may serve the purpose of an approximate *economic valuation of patents and their brands.*

Empirical part of the study is *illustrative in so far as the model with appropriate modifications may be used to analyze company level data within each industry.* Application of the model to sectoral *data reflects data difficulties.* The empirical analysis attempts to discover the relationship between brand positioning and consumption component of final demand and financial activities, reflected in capital accumulation component of final demand of different sectors of the economy.

Brand Positioning

Brand positioning has a location both in the product and financial markets, comprising of stock and loan/credit markets (For Conceptualization of Company and Product Brand, See Prakash and Sharma, 2005). The *'product brand'* is located in commodity market, whereas *'company brand'* operates in the job and financial markets. The company's 'company brand' image determines its ability to a) recruit human resources, having high profile and performance capability, and b) raise financial resources in capital/money market.

Company's *'Company Brand Image'* in financial market *determines its capacity to raise financial resources from the stock and credit markets.* Investment in a) new technology, b) higher operational scales, and c) fixed and working capital requirements determine *company's demand for capital.* Then, reliability, trust, and confidence, that the company brand inspires among its holders, are even more important in the financial than job market. Production and marketing of output together determine the level, occupational-educational structure, and hence, the capability profile of human resources employed in the company. The company brand positioning in manpower market will have a direct bearing upon the capability profile of human resources employed in the company. It, in turn, determines the *contractual obligation of wages and salary payments to be made on the one hand,* and *proficiency and productivity of operations* of the company on the other. The capital and human resources together determine the company's ability to generate *major share of income/ wealth and financial resources.*

The physical and human capital generate factor incomes. The level and composition of capital employed will directly affect the operational efficiency, reflected in the contribution of capital to Income and Wealth generation on the one hand, and the degree and nature of manpower's capability determines its claim on Income and Wealth on the other.

Company Brand

To the best of my knowledge, economic value added (EVA) is *used for the first time to assess the value of company brand.* An elaboration of the rationale underlying this evaluation may, therefore, be needed. EVA is an important component of value added (VA). *Value added portrays the income and wealth*, net of material inputs used up in production, generated through the production of goods/ services during the given period. EVA, however, reflects the *Market Value Added (MVA) by an enterprise;* it is given by the difference between the market value of an enterprise, including accumulated assets, and investment made by shareholders and creditors. The difference manifests the accumulation of additional assets and their values. Differentials of values also portray the price and cost differentials. Thus, *EVA is the extent of change in investors' and creditors' capital and wealth.* EVA is a short hand index of the entire range of managerial decisions and resultant final performance of the enterprise. EVA displays the level and direction of generation of income and wealth, and hence, extent of returns to investors. Economic Value Added (EVA) may logically be hypothesized, as a first approximation, to *determine the value of 'Company Brand' in financial market;* it is assumed to be accounted by *investment component of final demand.*

Product Brand

The basic objective of industries' R&D is cost cutting to offer effective price competition to rivals in the market through product branding and in stock and debt markets through company branding; another objective is *also to get an edge over rivals in non-price competition. It may revolve around quality.* We define quality broadly to comprise of i) improvement in design and structure of the product, ii) such other features as appeal to consumers in the light of emerging trends in industry, including innovative shape and attractive packaging, iii) durability, iv) diversified functionality, v) reliable and timely supply schedules, vi) dependable grievance retrieval mechanism for consumers, and vii) repairing and maintenance services for durables. These facets determine the companies' *overall product brand positioning.*

Available capital determines the scale of output and requirement of human *resources*. Product brand positioning in the commodity market will then determine sales/ turn-over, market share, and product pricing. Last two variables, both in absolute and relative terms, reflect the impact of

Product Brand positioning of the company/ sector. *The consumption and export component of final demand may be taken to determine the Value of Product Brand,* **since effective *demand for the good/ service manifests the impact of product brand*.** *The part of total value added due to this component of final demand may* be considered, *as a first approximation, to measure the value of Product Brand.*

Modeling of Brand Valuation

Conditions of survival and success of a company/firm/industry in the product market comprise of *twin conditions of technical feasibility and economic viability.* Technical feasibility of production relates to the *probability of bare minimum survival in the market,* irrespective of the degree and structure of competition. *It is a part of necessary condition. Sufficient condition relates to economic viability.* Conditions of both technical feasibility and economic viability, *the necessary and sufficient conditions of production, relate to Value Added.* Technically necessary condition requires the satisfaction of following inequality:

$$p_j - \sum_i p_i a_{ij} > 0 \qquad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(1)}$$

i = 1,2,…n, where a_{ij} is quantity of ith good needed to produce one unit of commodity j, and p_i is unit price of good i. Inequality represents *value added* per rupee worth of output of j[1].

If 1 holds as an identity, it implies the satisfaction of condition of technical feasibility of a company/ firm/ industry just at survival level in the immediate run in a competitive market. *It may be defined as the necessary condition of survival.* An industry/ company satisfying 1 as an identity conforms to the *Sraffian concept of a 'Closed' 'Self-Replacing' and 'Self Sufficient' production entity/ economy,* needing only commodities to produce commodities. Naturally, coverage of commodity cost of production by price is needed to keep such economies going. Real life economies, however, can not operate without factors of production. From the view point of business, *contractually obligatory payment of wages and salaries to employees, including managerial personnel*, has to be added to commodity cost of production to *satisfy the short run necessary condition of economic survival;* it pertains to economic viability. Necessary and sufficient condition are decomposed into two parts: i) short run survival at an exogenously given competitive product and human resource prices; and ii) long run prosperity. Both these are *derived from the Product Brand Positioning* in the competitive commodity market:

$$p_j - \left[\sum_i p_i a_{ij} + w a_{oj} \right] \geq o \qquad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(2)}$$

where a_{oj} is human resource requirement for producing one rupee worth of output of j, w is uniform/average wage & salary rate. Sum of wage and material costs equals marginal/variable cost of production. *Satisfaction of 2 as an identity involves loss of fixed capital cost to the production entity.* Only if the price covers all costs, including fixed capital cost, production entity *is viable economically in the long run* (Cf. Mathur and Bharadwaj, Chapter I, 1967):

$$p_j \geq \sum_i p_i a_{ij} + w a_{oj} + r \sum_i p_i b_{ij} + c_j \qquad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{(3)}$$

where $r \sum p_i b_{ij}$ is interest cost of credit, bij is stock/capital input of producer good i per rupee worth of output of good j. Cost of equity comprises of expenses on a) brokerage/ commission, b) regulator's fees, c) custody charge, d) safe-keeping and clearing charges, e) stamp duty, and f) vat/ tax. Cost of credit as against equity capital comprises of a) interest payments, b) processing fees, if required, c) stamp duty or registration fees, wherever needed, and d) miscellaneous expenses, including expenses in paper work or fulfillment of formalities. Sum of all these

expenses per unit equals c_j in relation 3/4. Long run cost of production, including non-interest cost of capital, c_j is given below (Cf. Malik, 2004, Cf. Singh, 2004, Cf. Ehrbar, 2000):

$$E_j = \sum_i p_i a_{ij} + wa_{oj} + r \sum_i p_i b_{ij} + c_j \quad \text{.. (4)}$$

i, j=1, 2, ……. n, Ej is average/ unit cost of production of commodity j.

Satisfaction of 3 as an identity fetches just what Marshal calls normal profits paid for coordination/ management function discharged by professional managers of organization.

Only if 3 is satisfied as inequality, that is, $p_j > E_j$, *business operations will yield a surplus* or profit, where $\pi_j = p_j - E_j$ is *Profit/ Economic Value Added* (EVA) per unit of output. *Economic Value Added* (EVA) is, thus, an important component of *Value Added* (VA).

Value Added

Value added of sector j, V_j is the excess of its output over the sum of values of commodity inputs used up in production of j. Multiplication of Equation 2 by gross output, x_j furnishes total Value Added of j:

$$V_j = \left[p(j) - \sum_i p_i a_{ij} \right] x_j \quad \text{.. (5)}$$

$v_j = (V_j / p_j x_j)$ is value added per unit of output of j.

Valuation of both output and commodity inputs in producers' prices is net of tax, trade and transport margins, which are *included in purchasers'/ market prices*. Value added is *the contribution of primary factor*, labour and capital to output. It, therefore, equals the sum of wages and salaries paid to employees, including managers' salaries, and gross profits accruing to the company/ sector[2]:

$$v_j = wa_{oj} + \Pi_j \quad \text{.. (6)}$$

$$= wa_{oj} + c_j + r \sum p_i b_{ij} + \pi_j \quad \text{.. (7)}$$

where Π_j is gross profit per rupee worth of output of j, π_j is economic value added defined as

$$\pi_j = \Pi_j - \left[c_j + r \sum p_i b_{ij} \right] \quad \text{.. (8)}$$

Final Demand

As against value added, *final demand is the surplus of output of j over intermediate demand of other sectors of the economy for output of j required as input in their production*:

$$S_j = \left[p(j) - \sum_i p(i)a(ji) \right] x_j \quad \text{.. (9)}$$

where S(j) is total surplus of j available for final use.

Surplus output equals its final demand for domestic consumption, f, exports, e and net domestic capital formation. Consumption comprises of private consumption, pfc_j and government consumption, gfc_j; net domestic capital formation is the sum of change in stock, CST and domestic fixed capital accumulation, DFCA[3]. Thus, final demand may be redefined as follows:

S(j)=F(j) +K(j)   .... (10)

where Fj and Kj are consumption demand, including exports, and investment demand for j respectively, where

$$F_j = pfc_j + gfc_j + e_j \quad \text{..} (11)$$

and

$$K_j = DFCA_j \pm CST_j \quad \text{..} (12)$$

Relation 12 represents fixed capital formation and change in stocks. Thus, both fixed and working capital elements get loaded on investment demand component of final demand.

Determination of Value of Product and Company Brands

Then, how does one evaluate economic worth of company's a) Product Brand, and b) Company Brand?

Value of Product Brand: V(PB)

Holistically, one may postulate that ability of the company to i) market its product(s) in commodity market(s) will manifest the value of Product Brand. It may be portrayed by a) sales; b) market share; ii) command of a price at least equal to the average of prices commanded by other brands nearest in competition to one under consideration; and iii) retention of loyalty of consumers over prolonged periods. But influence of last 3 factors ib, ii and iii is subsumed in sales. *The consumption demand for product is hypothesized to flow from Product Brand Positioning* of the good in commodity market both within and outside the country. As a first approximation, it is assumed that consumption, private, government and export, $pfc_j + gfc_j + e_j$ component of final demand *is driven by residual value added, that is, value added net of profits:*

$$R_j = v_j - \pi_j \quad \text{..} (13)$$

where R_j is the difference of value added and profits per unit of output. Value of 'Product Brand' of the company will then be determined by R_j in terms of consumption demand. The value of Product Brand V(PB) is determined as follows:

$$V(PB) = R \, (I-A)^{-1} \, F \quad \text{..} (14)$$

V(PB) is row vector of sector wise value of Product Brand in commodity market, R is sector wise row vector of *value added per unit of output net of EVA,* and F is diagonal matrix of consumption component of final demand. The rationale is that private final consumption is financed mainly out of wage and salary component of value added, whereas government final consumption is financed out of revenue account public expenditure. Public expenditure is financed out of tax and non-tax revenue. Demand for exports emanates from foreign users. Sales will include output sold directly to consumers as well as producers. But F does not include intermediate demand for production. Elements of Leontief Inverse represent *output required both directly and indirectly to satisfy unit final demand. Leontief Inverse indirectly takes intermediate demand* component of demand *into account. Net income from sales of company's/ sector's product to all final users will yield the value of Product Brand.*

Value of Company Brand: V(CB)

Investment/ capital is raised in money market from 2 sources: i) equity accumulated through new issues and conversion of debentures into rights shares; and ii) loans from banks, other financial institutions and direct deposits from public. Company Brand reflects the *company's ability* to i) raise resources from under-writers; ii) promoters; iii) loans from financial institutions; and iv)

equity capital from stock market. Equity depends on the number of shares sold and their price(s) in stock market. Cost of both these component of capital is represented by $r\sum p_i b_{ij} + c_j$ in relation 3/4. S*atisfaction of 3 as an identity enables the company/ industry to operate at break even point, where the production unit earns just normal profits to be paid as salary to the managers for their functions;* it does not leave any pure/ net profit as a reward for entrepreneurial enterprise/ risk and/or return on investment/ capital. In this state, business operation *does not generate economic value* addition/*surplus to endogenously finance expansion/ diversification, provide returns to financial stake holders, or generate income and create wealth for enterprise.*

Economic worth of the company's C*ompany Brand,* distinct from product brand, is hypothesized *to display its positioning in financial market.* Sectoral *investment component of final demand, shown by net domestic capital formation* is, by and large, driven by profits/ economic value added. The sectoral dispersal of both the components of investment demand depends mainly on the ability of enterprises to i) safeguard investment; ii) ensure a decent return on invested capital; and iii) promote generation of income and wealth. All three factors are reflected by economic value added. A feature of EVA *is that 'the present value of future EVA, when added to the firm's NAV, is mathematically identical to the present value of future distributable cash'* (Stern, 2005). This in my view makes EVA an appropriate indicator to *assess the value of company brand* in the financial market. Public sector indulges in dis-savings. Private corporate sector accounts for approximately 20 per cent capital formation/ savings/ investment, while households account for four-fifths of total savings (RBI 2000-01). EVA guides both these groups of investors towards the direction and destination of parking their savings for investment.

Value of company brand, V(CB), manifested through net investment component of final demand, is determined as follows:
$$V(CB) = \pi(I - A)^{-1} K \qquad \text{…………………………………………………………………… (15)}$$

where V(CB) is, as a first approximation, a vector of sectoral row vector of *Value of Company Brand in money market*, as distinct from company brand in manpower and distribution net work market, π is a sector wise row vector of economic value added per unit of output, and K is a diagonal matrix of secotral investment demand.

Data Base

Primary source of data, used in the study, is Planning Commission's 115X115 Input Output Table 1993-94 of Indian economy. It has been aggregated into 45X45 table. Sectoral aggregation has been guided by a) close homogenization of products and by-products; b) availability of data at the company level about i) cost of capital, ii) new issues floated in capital market, and iii) deposits raised from public during the relevant period; and c) *compatibility with available software for matrix inversion.* Aggregation has been carried out on 115X115 transaction table. The usual data contained in Input Output table was supplemented by data extracted from CMIE's data package *Prowess.* Information regarding capital cost of new issues has been gathered from SEBI. *I have been able to gather information about 85 companies* (table-1 enclosed). For each company, total economic value added has been estimated separately from relation 8. Then, information about main products of these companies has been used to apportion their EVA to appropriate sectors. *Weighted average of economic value added per unit of output has been calculated for the given sector from EVA of the sampled companies allotted to the sectors.* Three years average of sales data has been used to approximate output, since

Total supply = Output+Stock of finished goods brought forward from previous year–stock

of finished goods left unsold at the year end = Output + Change in stock.

It is assumed that averaging sales of 3 years will even/ average out change in stock component of supplies to approximately reflect output. EVA per unit of sales has then been used to generate estimates of each of 45 sector's *total economic value added*. Sectoral EVA, thus estimated, has been used to estimate residual value added, R for different sectors. In order to avert the cumulation of percolation error of estimation, information about company level wage and salary bills has not been used for this purpose.

Analysis of Empirical Results

Values of Product and Company Brands have been determined in accordance with relations 14 and 15. Results are reported in table 2.

Average Value of Company Brand: Sectoral Variation

Average value of company brand for all sectors of the economy, taken together, is Rs. 4474.24 only. The value of product brand is Rs. 684323.46, which is approximately 153 times higher than the value of company brand.

Value of both company and product brands vary sharply among sectors. *Five of 45 sectors of the economy have destroyed the financial stake holders income and wealth by earning negative economic value added*. Negative values of company brand ranges from a minimum of Rs.1.51 to a maximum of Rs. 18898. Negative values of company brands for other 3 sectors varies from Rs. 2010 to Rs. 6289 to Rs. 15715. Range of variation for this set of sectors is thus quite high. Positive value of company brand varies more sharply from Rs. 0.18 to Rs. 65984. This range of variation of values of company brand is well reflected in the coefficient of variation, which is as high as 299 per cent.

Sectoral *differentials of the value of company brand* may probably be gauged better from the following table:

Group	Range of Value of Company Brand								
	0.17-2.5	50-88	125-255	430-941	1130-1954	2494-4677	5277-9307	12605-14850	25255-65983
Frequency	4	3	6	5	4	7	6	2	3
Percentage	9.1	6.82	13.62	11.36	9.1	15.91	13.62	4.55	6.82
	40.91				38.63			11.37	

First four groups, having 18 sectors of the economy, account for about 41 per cent of total sectors; *these sectors have almost no or negligible value of sectoral/company brand.* Future *prospects of growth of these sectors naturally seem bleak. Seventeen or 39 per cent of total* sectors of the economy in next three groups have only *modest value of company/sector brand.* Future Growth prospect of these sectors *is naturally extremely modest*. Next 2 groups, having 11.4 per cent of total sectors, *have achieved high value of company brand*. Only a little more than one tenth of total sectors of the economy thus command a bright prospect of rapid future growth in so far as their capacity to mobilize capital resources is concerned. These may be termed as *the rapidly growing sectors* of the economy, also *holding the key to future acceleration of growth*. Such inter-sectoral differences in the values of company brand lie at the base of as high a value of Coefficient of Variation as 299 per cent.

Average Value of Product Brand: Sectoral Variation

Average of sectoral values of Product Brand at Rs. 684324 is quite high; it is 153 times greater than the average of values of company/sectoral brands. Naturally, *the range of inter-sectoral variation of company brand is much lower than the range of variation of product brand values.*

Like the values of company brand, *values of product brand also depict an extremely high degree of inter-sectoral variation.* The coefficient of variation is approximately 227 per cent. This is, however, lower than the variation of values of company brand; C.V. of company brand values is 1.32 times the CV of product brand values, notwithstanding a much higher average value of product brand and its range of variation. Range of variation of the values of product brand is as high as Rs. 1.1 to Rs. 76,00,752.

Extent of inter-sectoral variation may be gauged better from the following table:

Range of Values of Product Brand

Group/ Frequency	1-450	4163- 15493	21551- 95121	725100- 952980	1320290- 2990000	5936260- 7600795
Frequency	9	5	13	10	6	2
Percentage	20.41	11.37	29.55	22.23	13.62	4.55

The table shows that one fifth of total sectors have an extremely low value of Product Brand. Number of sectors in this group is approximately half the sectors in such a category of company brand. Slightly more than one tenth of total sectors fall in the group having a moderately low value of product brand. This is less than one fourth of the number of sectors in such a group for company brand value. These sectors seem to be dominated by small enterprises. About 30 per cent *sectors have moderately high value of product brand.* These sectors appear to be the domain of medium sized enterprises. Nearly 36 per cent sectors have attained high values of product brand, whereas only 5 per cent sectors have exponentially high value of the product brand. About three fifths of the total sectors are dominated by small and medium enterprises, whereas about two fifths sectors are under the dominance of large enterprises. In so far as growth of the economy depends upon the growth of output, which is governed largely by the growth of consumption demand and its multiplier effect, acceleration of growth of GDP crucially depend upon growth of demand for the products of medium and small enterprises, otherwise sluggish/ slower growth of these sectors will lower the growth performance of the economy, rapid growth of the remaining 40 per cent sectors under the domain of large enterprises notwithstanding but both groups of enterprises will require the support of high valuation of company brand for raising resources for investment from the capital/money market.

An interesting point is *that both company and product brands are dominated mostly by low values*, *though low values dominate company brand relatively more than the product brand.*

A perusal of sector wise values of product and company brands also reveals that i) values of product brand are far greater than the corresponding values of the company brand; ii) higher product brand values are generally associated with higher company brand values, while lower product brand values have correspondingly lower company brand values; iii) value of product brand seems to govern the value of company brand, and iv) as one moves from lower to higher values of product and company brands, both absolute and relative frequencies tend to decline rapidly.

Inter-Relation Between Product and Company Brands

The company brand gives initial strength to the launching of product brand in commodity market. But ultimately consumers' response gives strength not only to product brand image in the

commodity market but it also boosts the value of company brand in capital/ money market. Economic value addition, *the determinant of company brand value, may be hypothesized to emanate from the success of product brand in the commodity market.*

Does it suggest a functional relationship between the values of product and company brands? The thesis is evaluated by means of correlation and regression analysis.

Karl Pearson's correlation coefficient is as high as 0.9407. The correlation coefficient does indicate that the values of product and company brands are directly related to each other. The OLS estimates of regression equation are reported below:

$Y = -1073.91 + 0.00812X$, $R^2 = .8849$

where Y is the value of company brand and X denotes the value of product brand. Regression and correlation coefficients are statistically significant at 1 per cent probability level, t having as high a value as 18.2 for 43 d.f.. As much as 88.5 per cent of total variation in the value of company brand is explained by its regression on the value of product brand. Results lend credence to the thesis that product brand determines the value of company brand.

These results have important implications for *market researchers* for formulating marketing strategies. Results also have message for macro policy makers.

Notes:
1. This represents the traditional concept of value added (See, Mathur and Bharadwaj, 1967)
2. This holds true if both output and inputs are evaluated in producers' prices. Evaluation of output and input in market prices will involve tax margins also. Surplus will then comprise of trade, transport and tax margins also.
3. Since we are taking into account only domestic production and its availability, import component of supply/final demand is overlooked.

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