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Value of the Firm

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VALUE OF THE FIRM

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National Income

- National income may be defined provisionally as the net total of commodities and services (economic goods) produced by the people comprising a nation;
- As the total of such goods received by the nation's individual members in return for their assistance in producing commodities and services;
- As the total of goods consumed by these individuals out of the receipts thus earned, or
- As the net total of desirable events enjoyed by the same individuals in their double capacity as producers and consumers. Simon Kuznets

Appraisal of National Economy

- "…National income is the end product of a country's economic activity, reflecting the combined play of economic forces and serving to appraise the prevailing economic organization in terms of its returns."
- Simon Kuznets

Why The Firm?

- Barnard, Simon, Cyert, March: Alliance among people who want to do better than they could do alone
- Coase: Economize on transaction costs
- Demsetz: Team production
- Common theme: Generate surplus (excess of resources generated over opportunity costs of resources contributed)

Who Gets the Goodies?

- How is this surplus allocated among agents?
- The answer depends on alternative theories of the firm
- Simon (1952) analyzed neoclassical firm (F) and contract or organizational (O) theories

Neoclassical Firm

- Firm is the instrument of the owner-entrepreneur
- Every other agent gets the marginal opportunity cost of the resource he/she contributes (i.e. no goodies at the margin)
  - All these factor markets are assumed to be perfectly competitive
- All the surplus goes to the owner-entrepreneur
- Value of the firm is the discounted present value of cash flows to the owner
- IRR = O.C. of capital => zero value

Contract or Organization Theory

If the total surplus is negative the firm is infeasible; redesign the contracts or shut down

- If the total surplus is zero, there is a unique distribution in which everyone gets zero surplus
- If the total surplus is positive, there are multiple feasible allocations. There is no basis for choosing one allocation over another. Therefore, the distribution of surplus among agents is undetermined

Which View More Useful for Accounting?

- How we think about the firm is a major determinant of what kinds of accounting and reporting we do
- Mergers and acquisitions: theories, evidence, and controversies
- Shareholder value as a yardstick for financial reporting standards
- Prisoners of our perspective and data
- Consider alternative views, measures, theories and evidence

Accounting Model

- Accounting reports modeled after neoclassical view of the firm
- Treat all as costs all factors other than the equity capital
- Focus on net income to the shareholder
  - Residual income subtracts the cost of equity capital focuses on surplus
- Corresponding focus on shareholder value as the stock variable of interest

Contract View of Accounting

- Each agent gets an income from the firm (share of the surplus = value of inducements less O.C. of contributions)
- Negotiated ex ante (hopefully positive)
- Income stream to each agent can be capitalized to get the value of the firm to each agent after considering the chances and time horizon of its continuation
- Special informational role of income and value to the shareholder as a residual

A Brief Detour

- Am I talking about "social accounting?"
- Yes, there are some common elements
- But it differs in perspective
- Let us do a brief overview of social accounting

Social Accounting

- Also called socioeconomic accounting, social responsibility accounting and social audit
- Measure and report efforts, achievements and impact of firms on "social" dimensions
- E.g., energy conservation, minority hiring, environmental preservation, support of community organizations (see Appendix A)
- Often descriptive, may include financial and non-financial data

Typical Elements of Social Accounts

- A. **Community Involvement**: General philanthropy, Public and private transportation, Health services, Housing, Aid in personal and business problems, Community planning and improvement, Volunteer activities, Specialized food programs, Education,
- B. **Human Resources**: Employment practices, Training programs, Promotion policies, Employment continuity, Remuneration, Working conditions, Drugs and alcohol, Job enrichment, Communications,
- C. **Physical Resources and Environmental Contributions**: Air, Water, Sound, Solid waste, Use of scarce resources, Aesthetics
- D. **Product or Service Contributions**: Labeling, Warranty, Responsiveness to consumer complaints, Consumer education, Product quality, Product safety, Advertising, Constructive research

Examples of Social Accounting

- **Tradecraft, http://www.globalnet.co.uk/~traidcraft/sa9495/index.html**
- British Telecom, http://www.groupbt.com/society/index.htm
- General Motors, http://www.gm.com/company/gmability/environment/env_annual_report/index.html
- Intel http://www.intel.com/intel/finance/social.htm
- United Airlines http://www.ual.com/site/primary/0,10017,1359,00.html

Social Accounting Perspective

- "Social" is construed narrowly, leaves out production, sale and distribution of goods and services, taken for granted
- Managers responsible for preparing the social accounts
- Information inherently dispersed
- Uses perspective of the firm, not the members of society
- Fuzzy image

Income/Value of the Firm

- Extensive income as the sum of:
- To the shareholders
- To customers
- To Vendors
- To employees
- To creditors
- To government
- To community, etc.
- Inducement from the firm – O.C. of contributions

Income/Value to Investors

- Residual income and corresponding shareholder value created
- Focus of current financial reports
- Apply similar perspective to other participants in the firm

Income/Value to Customers

- Customer's "investment" in the form in the form of search, learning, negotiation, payments, settlement of disputes
- Expected PV of benefits from goods received should exceed the PV of investments
- Includes immediate transaction as well as the consequences of the transaction for resource flows associated with any future transactions (reduction in time, cost, search etc. for later transactions)
- In a perfect product market, consumer's surplus from the firm is zero (may be +ve from industry, and the economy)

Value to Government

- Various levels of government provide mostly non-priced services plus some priced goods
- Resources from taxation
- Value of the firm to the government from providing priced services is the same as for vendors
- Value of the firm to the government from providing non-priced services is taxes plus fees minus O.C. of resources spent on providing services
- Major challenge to put this into practice

Value of the Firm to Community

- Local, national and global
- Most exchanges in form of externalities
- Value of the firm to the community is the sum of net externalities plus the net payments

Measurement of Income/Value

- J.M. Clark (1936): Three fundamental challenges to determining the value of private enterprise
  - Imperfect and incomplete markets
  - Fundamental values not as exact as market values
  - Fundamental concepts should be independent of specific institutions of exchange (generality)

Markets and Value of the Firm

- In a perfect market Law of one price holds, everyone gets the same price
- Value to the supplier of factor is zero
- Existence of value =>market imperfection
- Perfection can be the tendency of markets under certain conditions, not the goal of any agent
- Agents seek and create imperfections (specialization, differentiation, monopolies)
- Value creation as a treadmill, not ski lift
- Market frictions/trans. Costs create room for value

Externalities in Value of the Firm

- Difficult problems of measurement because there is no help from markets
- Most organizations produce and consume public goods
- Extensive concept of income includes the value of these benefits consumed and bestowed on (and losses inflicted on) the community

Difficulties of Measuring Externalities

- Example: Vans to transport employees from train station
- Cost of service to the firm, and benefits of lowered costs of parking, absenteeism, morale, etc.
- Employee savings: cash, time, fatigue, etc. best estimated by employees
- Benefits to fellow commuters, local government, citizens
- Lump together as community, apply social cost-benefit analysis to determine income to community
- Sensitive to identity of preparer
- Valuation: social rate of discount lower than private

Implications: Mergers and Acquisitions

- Extensive debates surrounding the consequences of corporate mergers and acquisitions
- Empirical studies: Target firm shareholders gain,
- Acquiring firm shareholders' wealth effect not clear
- Occasional attention to bondholders, and tax consequences
- Effects on labor, customers, vendors, community rarely examined
- What kind of policy decisions possible on the basis of shareholder value alone?

Justification for Shareholder Value Criterion

- Assume neoclassical model of the firm (all surplus always goes to the owner, income/value to all other agents is zero both before and after the event): no need to look at the effects on any other class of agents
- Capital markets are said to be efficient, at least more perfect than other factor markets
- Contradiction between the two assumptions

Who Gets the Goodies?

- Agents who transact in relatively perfect markets should get prices close to O.C.
- U.S. capital markets said to be more perfect than others
- Suppliers of capital should be expected to get close to their O.C.
- Surplus/value of the firm should accrue mostly to agents who transact through less perfect markets
- Yet, we assume that the surplus goes to the shareholders

Contract Renegotiation

- Shareholders have the only open-ended contract in the firm
- All other contracts are periodically renegotiated; these agents try to capture a share of the surplus whenever possible
- Short term contract agents have an option value that shareholders lack
- Shareholders (as a group) and unvested pensioners cannot quit when faced with having to absorb negative surplus
- Many mergers and acquisitions are followed by contract renegotiations

Need Analysis of Extensive Income and Values

- For policy, need analysis of income/values to all agents, not just shareholders
- Given their long term inflexible contract, imperfections in corporate governance, they may not be able to capture all, or even most, of the ex post benefits of value-enhancing mergers and acquisitions
- Possible leakage to other agents through market imperfections, holes in corporate governance when value is enhanced
- Shareholders left holding the bag on depletion
- Would not know without analysis of extensive income/value of the firm

Shareholder Value As Guide for Accounting Policy

- Event, ERC, Value-Relevance, R^2 studies cited as justifications for accounting policy
- What is the theoretical justification for using shareholder value for this purpose (other than neoclassical perspective)
- Law of the Instrument (Kaplan): Use whatever data is available, extensive income/value measures unavailable

Concluding Remarks

- Neoclassical perspective is not useful for analyzing many accounting issues
- Income and value concepts driven by this perspective have their limitations, and contradictions
- For important classes of accounting matters, we may need extensive concepts of income and value
- Lessons from national income accounting

Thank you

- The paper will be available for downloading from
- www.som.yale.edu/faculty/sunder
- Please send your comments to
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